

User's Guide

HP Jetdirect 280m 802.11b internal wireless print server

Contents:

1. [Basics](#) of networking and network printing
2. [General information](#) about the print server
3. [Installation](#) of the print server.
4. Configuration and management -- please refer to the [HP Jetdirect Administrator's Guide](#). In that document, click on one of these topics in the contents panel on the left:
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 - Using the Embedded Web Server
 - Configuring for LPD printing
 - FTP printing
 - Security features
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 - Tools
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 - Performing a cold reset (reset to factory defaults)

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Networking Basics

Please click on a title to view a document.

The Network Basics Tutorial

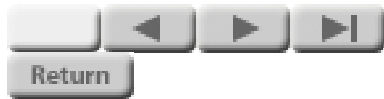
A brief overview of:

- Networks
- Network Printing
- Installing a Network Printer

Tips on Getting Started

Answers to common questions:

- Which CD should I use?
- Where do I find the printer driver?
- When do I stop?



The Network Basics Tutorial

This tutorial tells you about:

- [**Networks**](#)
- [**Network Printing**](#)
- [**Installing a Network Printer**](#)

Click the button to continue.



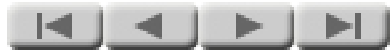


Section 1:

Networks

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NETWORKS



What you want

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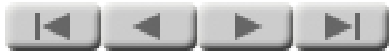
... is for all your computers to be able to:

- **Communicate** -- send and receive e-mail, and participate in conferences
- **Share information** -- transfer files among systems, and get information from central databases
- **Share resources** -- use shared printers, scanners, and servers



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The problem is

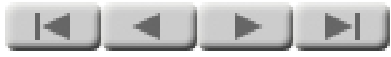
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... standalone computers
have no way to talk to
each other, so attempts at
communication fail.



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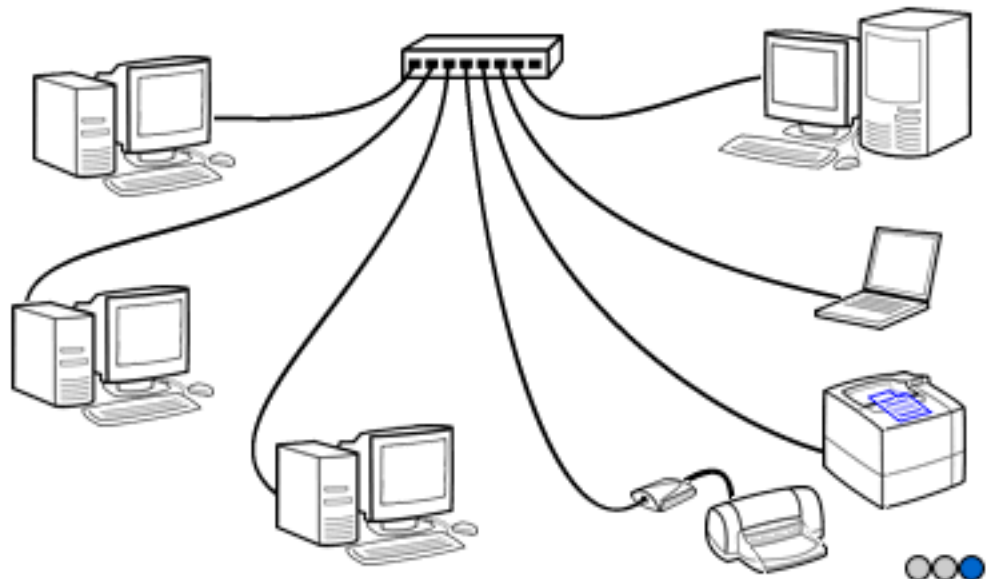
NETWORKS



The solution: a local area network

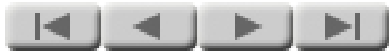
A local area network (or LAN) provides connections that tie the computers together and allow them to communicate. (The most common type of local area network may also be referred to as an Ethernet LAN or an Ethernet.)

Local area networks can be either wired (as shown here) or wireless. We will look at the different types in the next few pages.



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Wired LANs

As the name implies, a wired LAN connects computers (and other network devices) physically, using wires. A typical LAN uses twisted-pair wiring (similar to telephone wiring) to connect each computer to a central hub. The hub transmits network communications between computers.

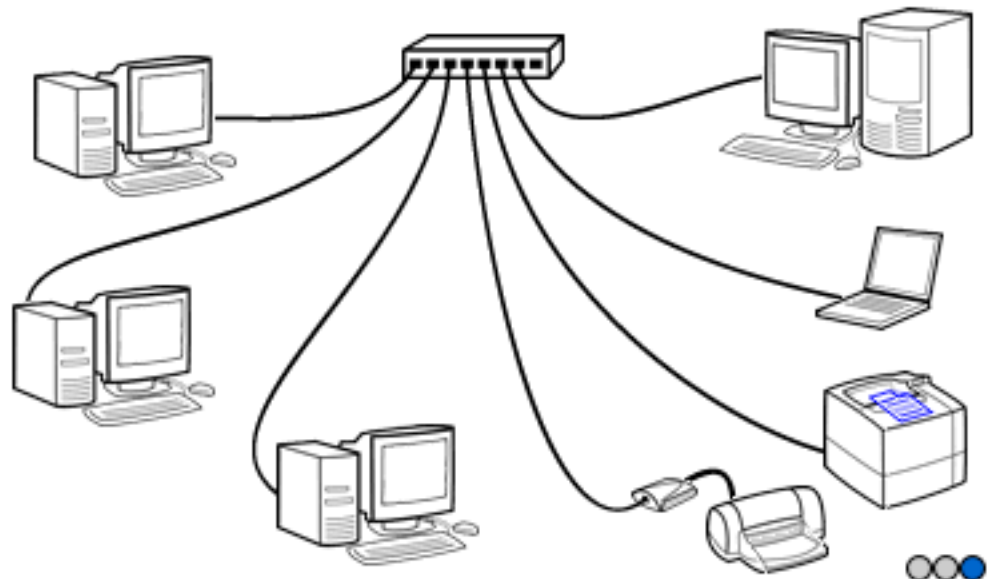
Wired LANs offer high-speed communication, as well as reasonable security and reliability. In general, however, they are not as flexible as wireless LANs.

Most wired LANs conform to the IEEE 802.3 standard. The most common wiring schemes use twisted-pair wiring or thin coaxial wiring.

[Details](#)

Click on these links for more details on LAN wiring:

- [Detail: twisted-pair wiring](#)
- [Detail: thin coaxial](#)

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[wiring](#)

- [Detail: computer connections](#)



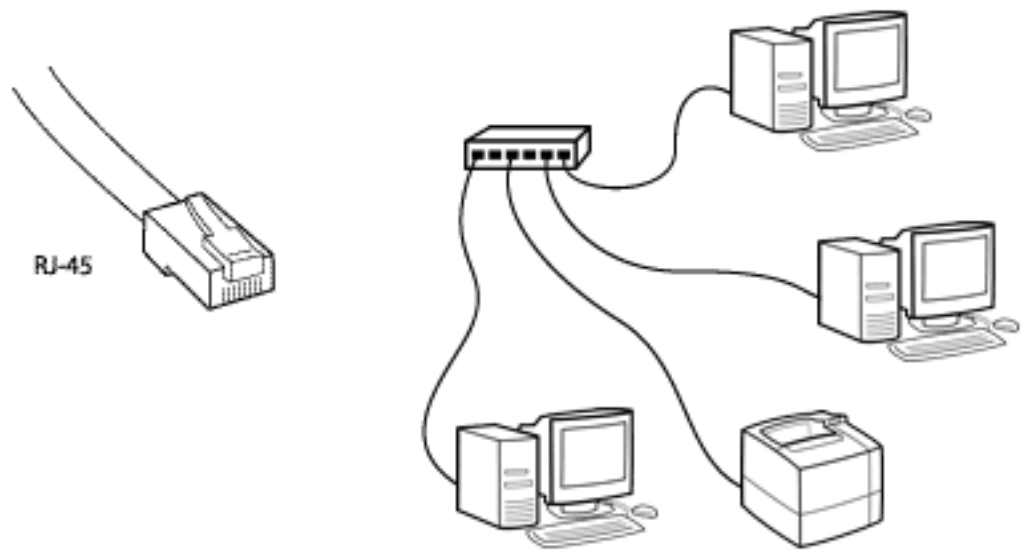
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Wiring: twisted-pair

The most common wiring used for LANs is twisted-pair wiring, similar to the wiring used for telephones. This wiring connects the computers or other network devices to a central hub. The use of telephone-type wiring makes it easy for the persons who administer your telephone wiring to administer the network wiring as well.

RJ-45 connectors are used to connect the twisted-pair wiring to the computer and to the hub. The wire for a network can be graded in a number of categories; Category 5 wiring is the most popular grade. Category 5 wiring has superior electrical characteristics, and we strongly recommend it for all twisted-pair networking applications. The wire grade is usually marked on the cable jacket.

The equipment for a twisted-pair LAN



commonly operates at a data rate of either 10 Mbps (megabits per second) or 100 Mbps. Category 5 wiring is required for 100-Mbps operation. A 10-Mbps LAN can run on either Category 3 or Category 5 wiring (though we strongly recommend Category 5). At either data rate, cables may extend up to 100 meters (328 feet) from the hub to the computer.

A twisted-pair network running at 10 Mbps is called a type 10Base-T network. A twisted-pair network running at 100 Mbps is called a type 100Base-T network.



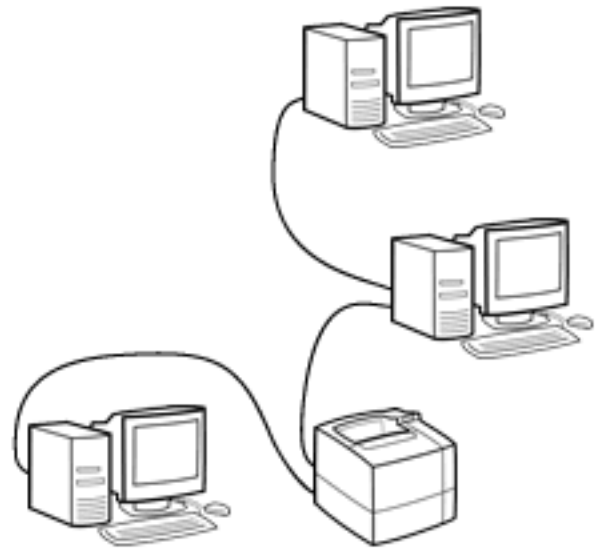
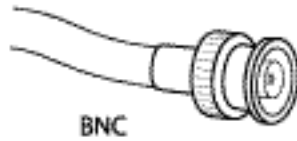
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Wiring: thin coax

An alternative to twisted-pair wiring is thin coaxial cabling, often called thin coax. This cabling is known as RG-58A or RG-58U cable, and has an impedance of 50 ohms. (It looks similar to the 75-ohm thin coaxial cable used in television installations, but the television cable will not work in a network.)

The connectors used with thin coax are BNC connectors. The cable is a continuous cable, up to 185 meters (606 feet) long, made up of shorter segments with BNC connectors at each end. It connects to computers and other devices along its length using BNC "T" connectors, and there is a 50-ohm terminator at each end of the cable. This cabling scheme does not use a hub.

A thin coaxial LAN operates at a data rate of 10 mbps (megabits per



second), and is known as
a type 10Base2 network.



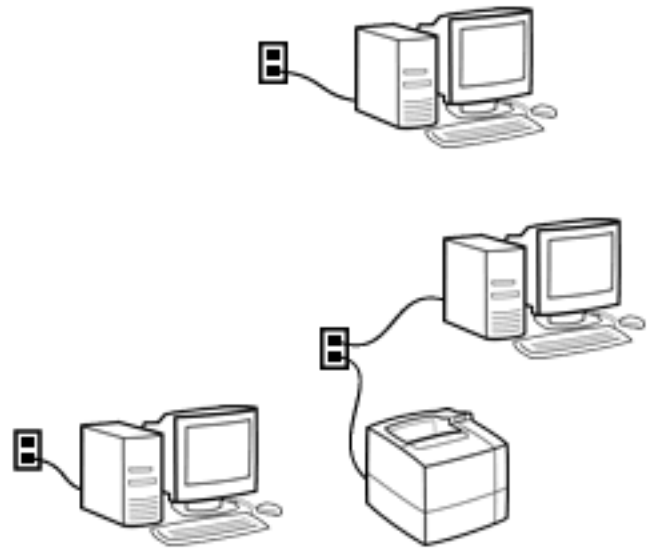
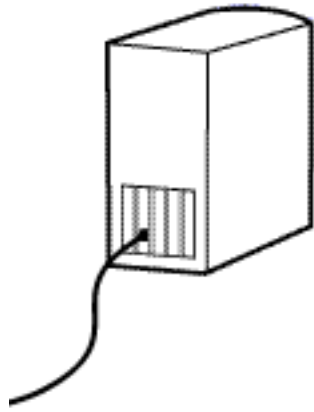
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Computer connections

For twisted-pair LANs: A desktop computer connects to a twisted-pair LAN through a network interface card (NIC) that resides in a slot in the computer, or through a similar interface built in to the computer itself. The RJ-45 plug of the network cable plugs into an RJ-45 jack on the card or in the computer. A portable computer may have a built-in connection using an RJ-45 jack, or it may use a PC card that inserts into a PC card slot in the computer. (Some PC cards take up two slots and have room for an RJ-45 jack that is integral with the card; others take up only a single slot but require a short cable that provides the RJ-45 jack.)

For thin coaxial LANs: A desktop computer typically connects to a thin coaxial LAN through a network interface card (NIC) ; built-in BNC connections

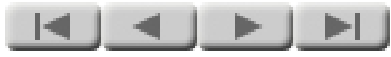


are uncommon. Portable computers connecting to thin coaxial LANs use a PC card with a short cable that provides a BNC connection. In all cases, the LAN cable connects to the computer through a BNC "T" connector.

Hidden network cables and

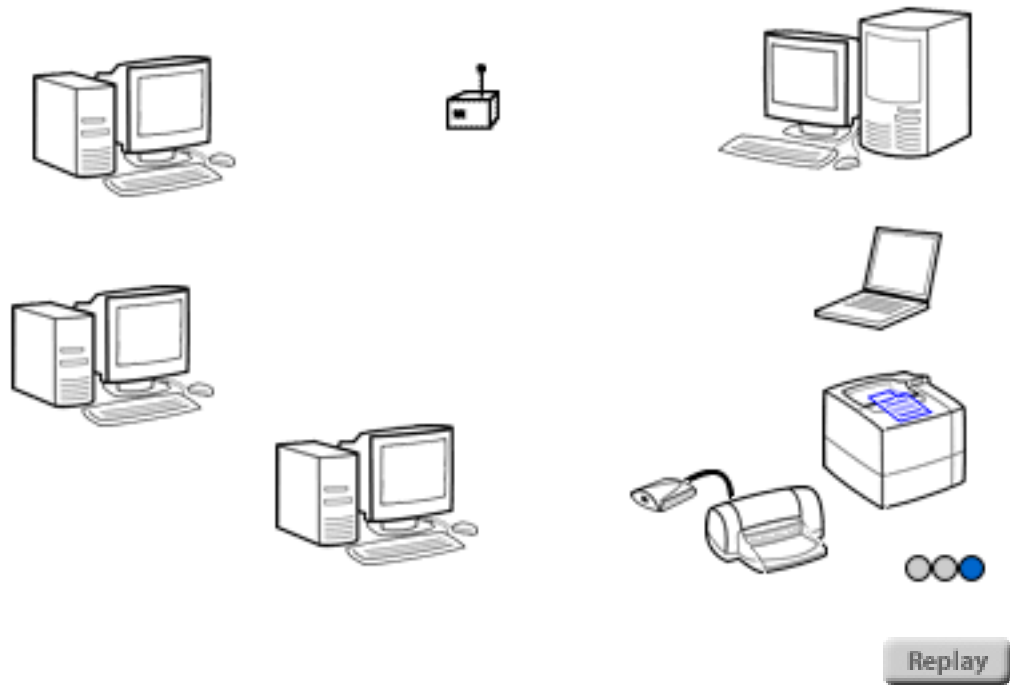
equipment: In many network installations, the hubs are kept in equipment closets and the cables are hidden in the walls. In these installations, wall outlets with RJ-45 jacks are the only visible components of the network wiring. For such a network, you use a short length of network cable to connect from the computer to the wall jack.

A rectangular button with a light gray gradient and a thin black border. The word "Return" is centered on the button in a dark gray, sans-serif font.

NETWORKS**Wireless LANs**

In a wireless LAN, information travels through the air in radio-frequency signals instead of through wires. This makes wireless LANs very flexible, and setup and reconfiguration are very easy. Communication speeds on wireless LANs, however, tend to be slower than on wired LANs, and it generally takes more work to make a wireless LAN as secure as a wired LAN.

Most wireless LANs conform to one of the subsets of the IEEE 802.11 standard; the most common subset is currently 802.11b. Data rates for 802.11b LANs can be as high as 11 Mbps (megabits per second). Typically a wireless device in an 802.11b LAN can transmit signals across a distance of about 30 meters (100 feet) in a semi-open office (no walls) and still maintain a data rate of 11 Mbps. It is possible to extend the range to about 100 meters (300 feet), but at such a



distance the data rate drops off to 1 Mbps.

802.11b wireless LANs operate in the 2.4 GHz frequency band. There are several channels (frequencies) that wireless LANs can use in this range. Government regulations prescribe which channels may be used in various parts of the world.

There are two basic wireless networking topologies -- infrastructure mode and ad hoc mode; these are described in the detail pages (see below).

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Click on these links for more details on wireless LAN topologies:

- [Detail: infrastructure mode](#)
- [Detail: ad hoc mode](#)
- [Detail: standalone peripheral connections](#)
- [Detail: computer connections](#)



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Infrastructure mode

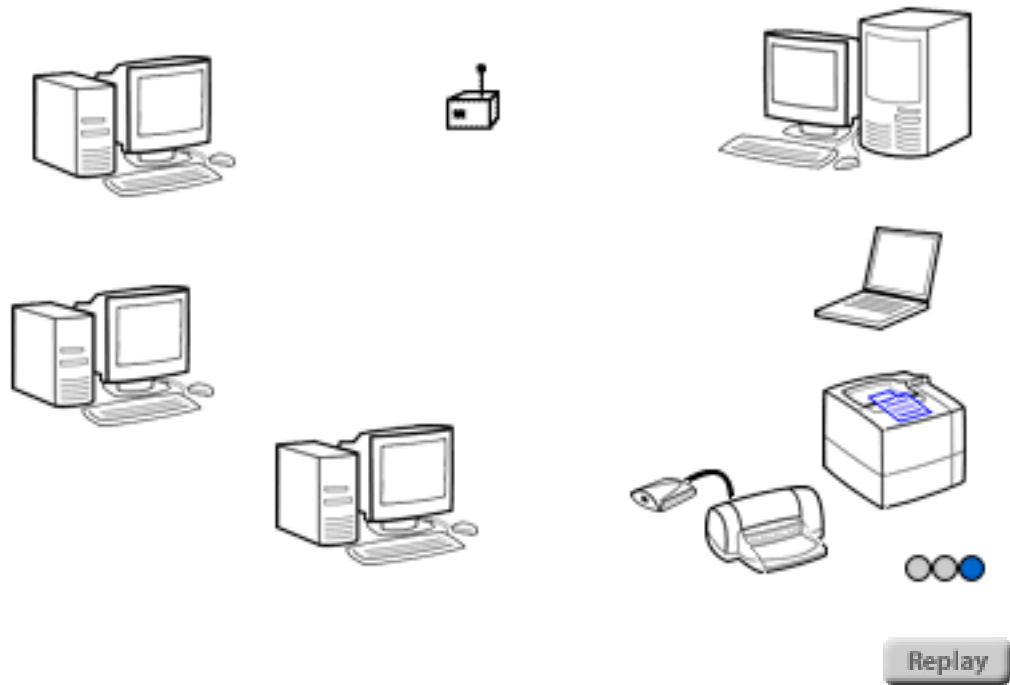
Terminology:

Infrastructure mode is referred to as a "basic service set" (BSS). It's topology is sometimes called a "star topology", and it may also be called "enterprise mode" because it is the preferred topology for large networks. On a network of Apple Macintosh computers, it may be called an "Airport network".

Topology: In

infrastructure mode, all signals travel through an access point. Like the hub in a wired LAN, the access point re-sends the incoming signals out to the computers and other devices on the network. (The access point performs additional functions when a wireless LAN is connected to a wired LAN.)

Infrastructure mode is suitable for wireless LANs of all sizes.



In infrastructure mode the access point sets the channel for all device that communicate through it.

A wireless LAN can have multiple access points. This can expand the capacity of the network and extend its range, allowing users to roam with their portable computers and still stay connected to the network.



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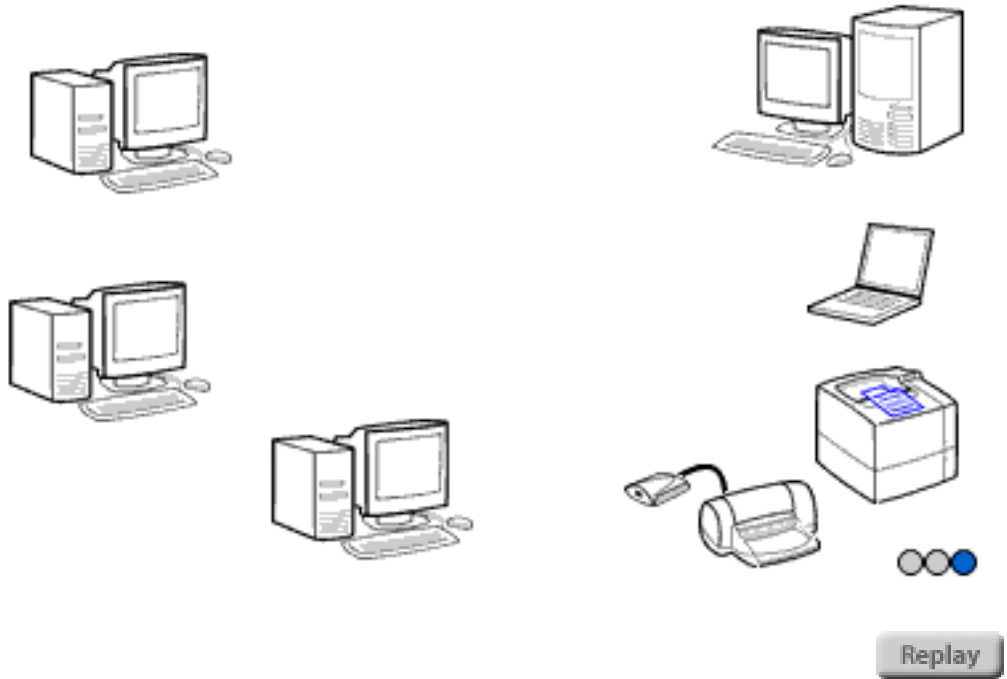
Ad hoc mode

Terminology:

Infrastructure mode is referred to as an "independent basic service set" (IBSS). It is sometimes called "peer-to-peer mode". On a network of Apple Macintosh computers, it may be called "computer-to-computer mode".

Topology: In ad hoc mode the wireless devices on a network communicate directly with each other, and access points are not used. Ad hoc mode is used for very small networks. Performance in an ad hoc network degrades as you add more devices to the network; typically, ad hoc networks connect no more than six devices.

In ad hoc mode you can select the channel. Make sure that all devices on the network are set to the same channel.



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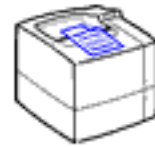
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Standalone peripherals

Not all wireless connections are network connections. Though the distinctions may often be somewhat blurry, some wireless technologies -- such as the Bluetooth technology that is becoming popular in mobile phones and handheld computers -- are more about connecting a computing device to a peripheral, rather than connecting computers and other devices in a network.

For instance, when a handheld computer connects with a walk-up wireless printer, or when a mobile phone connects with a vending machine, the interactions between them are typical of a standalone computer talking to a peripheral device. In essence, the wireless connection replaces the cable in a standard peripheral connection. Compared to network connections, such wireless peripheral



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connections work at short ranges and slow speeds.

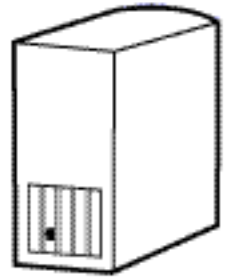
(In this tutorial, we will concentrate on the networking that is typified by 802.3-type wired networks and 802.11b-type wireless networks.)



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Computer connections



Connections at the computer for wireless networking connections are simpler than wired ones just because there are no wires to connect.

Wireless connections are most common in portable computers. Increasingly, notebook computers come with built-in wireless networking. For notebook computers that don't have built-in networking, you can plug a wireless networking card into the computer's PC card (PCMCIA) slot. (Wireless networking is based on radio technology, and in many add-on cards the antenna protrudes slightly from the PC card slot.)

Desktop PCs can have wireless networking, too. A typical arrangement is for an adapter in a desktop PC to contain a PC card slot, into which you plug the same kind of wireless networking card

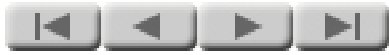


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that you would use in a
notebook computer.



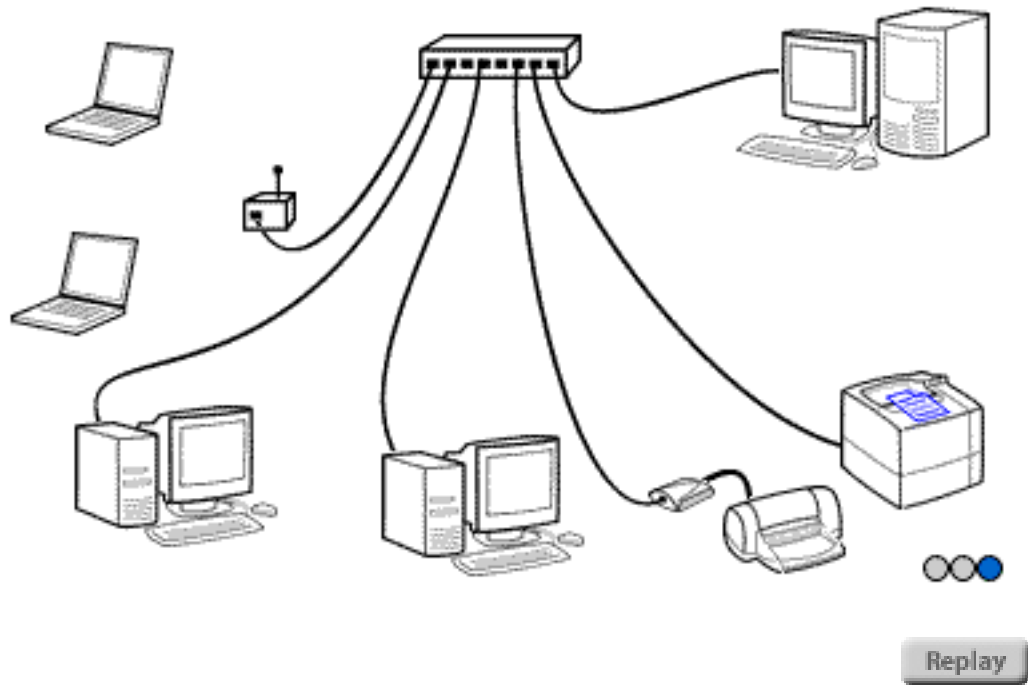
NETWORKS



Mixed LANs

Mixed LANs combine wired and wireless LANs, taking advantage of the strong points of each. For example, a mixed LAN can provide the flexible connections of wireless with the high overall throughput of a wired LAN. Such an arrangement makes it particularly easy for mobile workers to connect their notebook computers to the network.

You create a mixed LAN by plugging the network cable from a wired LAN into a port on a wireless access point. In addition to acting as a hub for the wireless portion of the network, the access point acts as a bridge to the wired portion. In a typical case, when a computer with a wireless LAN card comes within range of the access point, it connects through the access point to the LAN (both the wired and wireless portions) and to all the computers and other resources on the LAN.



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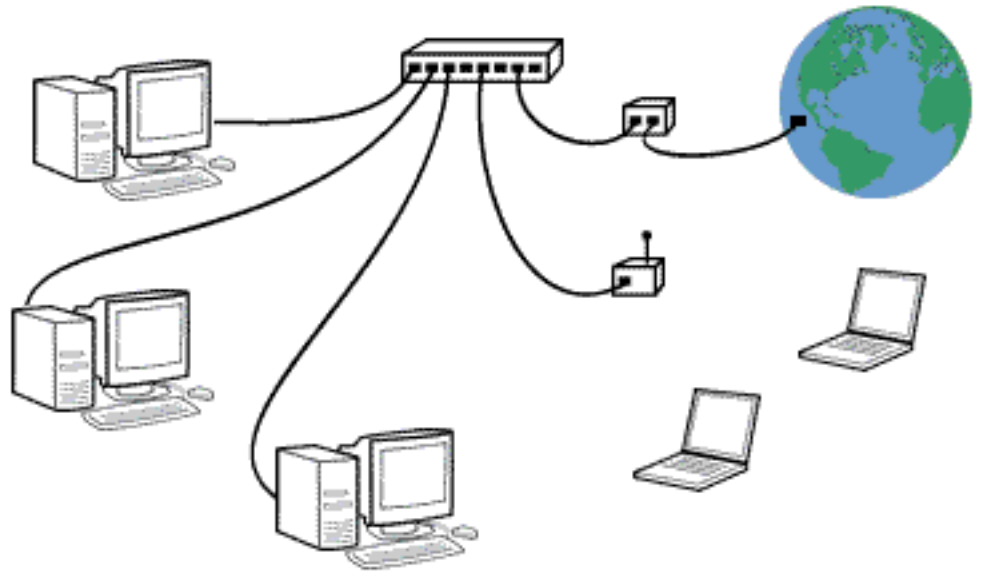
NETWORKS



L is for Local

The "local" in "local area network" means that the network is in a single location. A LAN can be small enough to serve a home office or a small business, or it can be large enough to serve a school, a hospital, or a substantial business or public office. It can cover several buildings, as long as they can all be connected into a single network. Several types of LAN equipment are available to expand a LAN beyond the workgroup-sized unit typically served by a single hub.

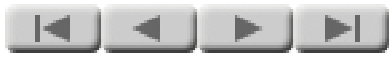
Note that the definition of a local area network does not include broader networks such as the Internet or a corporate network with locations in many cities or countries. These broader networks are often called WANs, or wide area networks. It is possible for a LAN to connect to such a network through a gateway -- a device that connects different types of networks. The gateway



can be a separate piece of equipment, or it can include the LAN hub. (This latter type of gateway is becoming increasingly common for Internet connections, particularly for high-speed DSL connections.)



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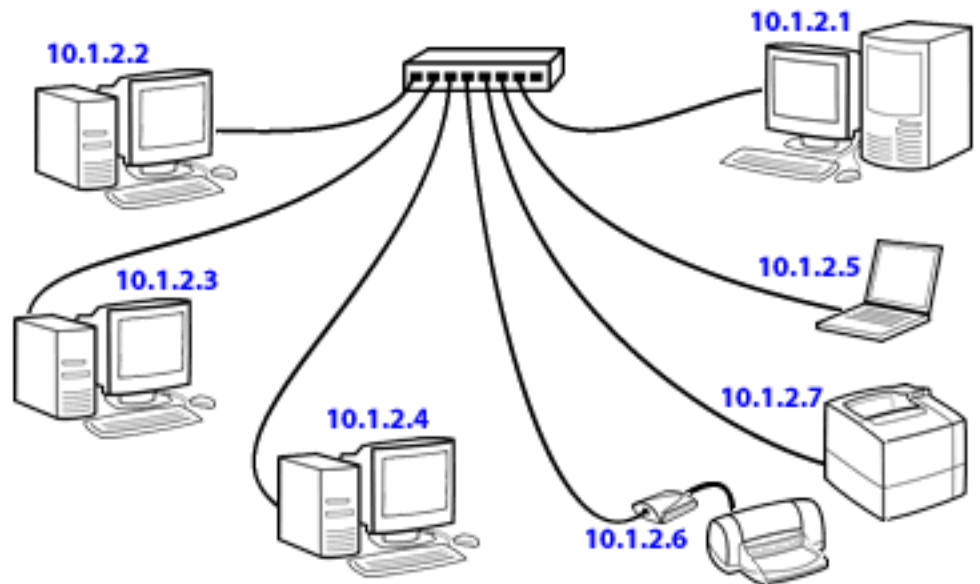


Addresses

Each device on the network has a unique address. This allows you to communicate with a specific computer (or other device, such as a printer). That way, your e-mail doesn't go to everybody, and your print job doesn't get printed simultaneously on all printers on the network.

There are several addressing schemes for networks. Of these, the most popular is that of the Internet Protocol (IP). In addition to being used on the Internet, IP addressing can also be used for standalone networks that don't connect to the Internet. The network addresses shown in the illustration are sample IP addresses.

Other network addressing schemes you may encounter include IPX (used with Novell NetWare networks), DLC, and AppleTalk. In this tutorial, we limit our discussion of network addressing to IP

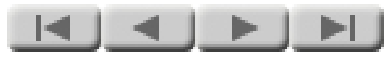


addressing, as it is the most popular.

The number of possible IP addresses is huge. So is the number of Internet users, and the possibility of conflicts is a real one. If you use IP addresses on your LAN and that LAN connects to the Internet, you must be careful to use addresses that have come from a reliable source, such as your Internet service provider (ISP).



NETWORKS



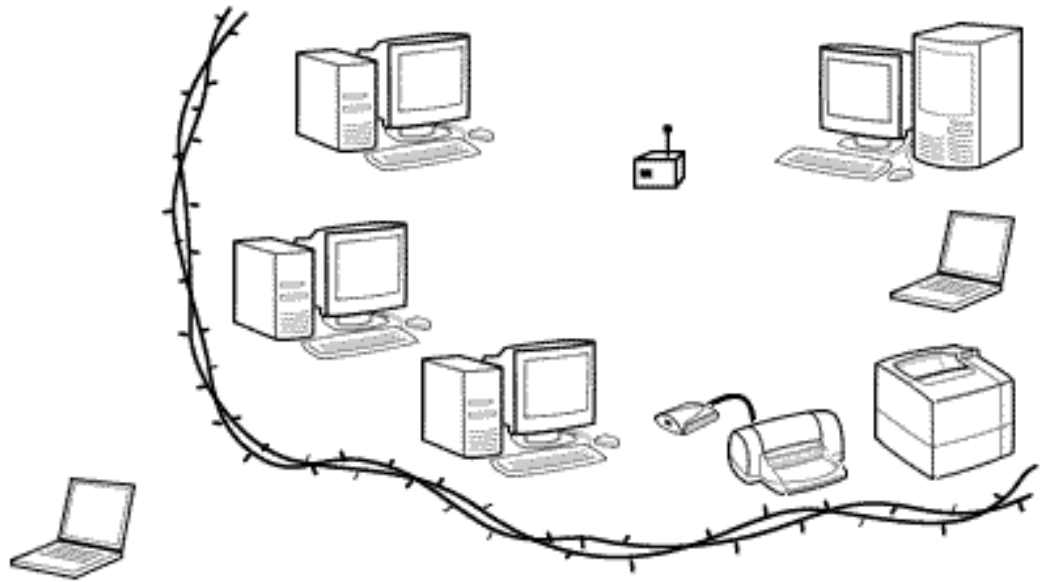
Wireless security

Wireless networks are inherently less secure than wired ones. In a wired environment an intruder needs to gain physical access to your network wiring to break into your network; in a wireless environment, he just needs to be in range of the radio waves that carry the network traffic. Since these waves penetrate building walls and easily carry for tens of meters, an intruder sitting in a car in your parking lot could monitor the traffic on the wireless LAN in your building.

To frustrate intruders, a number of standards have been developed to make security for a wireless network more-or-less equivalent to that of wired networks. These standards work in three areas:

Network name (SSID):

A network name, or service set identifier (SSID) is an alphanumeric character string that provides basic access control on a wireless network. To transmit onto



the network, the network name of a computer or other device must match the name configured into the access point.

Authentication:

Authentication verifies the identity of a user or device before the user or device is allowed to transmit onto the network. There are several different schemes of authentication that you might encounter when installing an HP Jetdirect print server:

- *Open system:* No authentication.
- *Shared key:* Each device uses the same shared key (a shared password value) for network access.
- *Server-based authentication:* A server on the network authenticates each client that requests a connection to the network. There are several protocols available, all based on the Extensible Authentication Protocol (EAP). Briefly described, they are:
 - **LEAP**
(Lightweight Extensible Authentication

Protocol) -- a proprietary protocol from Cisco Systems that uses passwords for mutual authentication (that is, the client and the server authenticate each other).

- **PEAP**
(Protected Extensible Authentication Protocol) -- a mutual authentication protocol that uses digital certificates for server authentication and passwords for client authentication. For additional security, the authentication exchanges are encapsulated within TLS (Transport Level Security).
- **EAP-MD5**
(EAP using Message Digest algorithm 5) -- a one-way authentication

protocol that authenticates the client using a password protected by the MD5 algorithm.

- **EAP-TLS**
(EAP using Transport Level Security)
-- a mutual authentication protocol based on digital certificates.
- **EAP-TTLS**
(EAP using Tunneled Transport Level Security)
-- a mutual authentication protocol that uses digital certificates for server authentication and passwords for client authentication. For additional security, the authentication exchanges are encapsulated within TLS (Transport Level Security).

Encryption: Encryption methods encode the traffic

on the network, rendering it unintelligible to an intruder who is monitoring it. WEP (wired equivalency privacy) is an IEEE 802.11 encryption scheme that provides basic access control and data privacy on your wireless network. Under WEP, you supply encryption keys that are used to encrypt the data stream.

In addition, some of the authentication protocols, such as LEAP and EAP-TLS, can manage encryption keys for the network administrator.

Wireless print server security: As you set up your wireless print server, the wireless setup wizard will make it easy to match the print server's security settings to those of your network. The wizard's help pages provide considerable detail on the process.



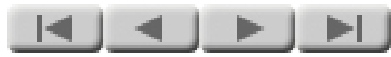


Section 2:

Network Printing

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NETWORK PRINTING

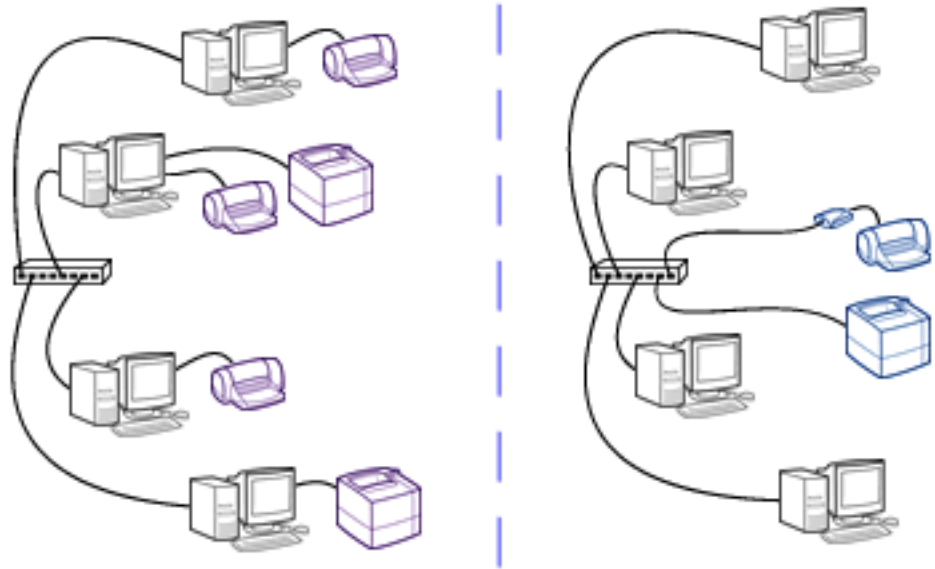


Why use network printers?

Using network printers lets you meet your computer users' printing needs more efficiently. By sharing printers among several users, you reduce the number of printers you need. This approach

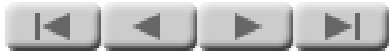
- *saves money* -- there's less equipment to buy
- *saves space* -- users don't need to make space for a printer
- *saves maintenance* -- fewer printers mean less bother

all with little inconvenience to users. (In fact, shared printers may be *more* convenient: nobody has to go without a printer or change to a different computer just to print; and sharing may save enough money to let you purchase printers with more functions or greater speed.)





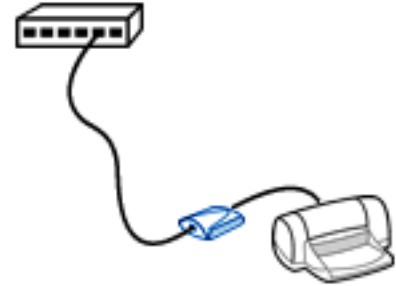
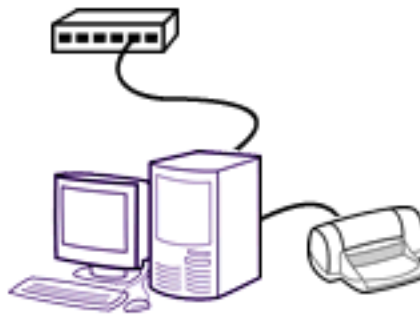
NETWORK PRINTING



Why use a print server?

A print server provides your printer with *connection to the network*. You could get the same connection using a computer -- your network server -- but it would cost more and be more complex. Using a print server saves you money and frees up your network server for other tasks, such as file storage.

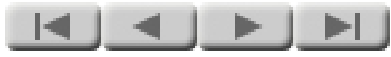
You might want to use a network server for *management of print jobs*, a function that may be useful for larger networks. In such an application you will still probably want to use a print server, because its small size gives you *location flexibility*. Using a print server, you can easily place your printers near your users, while keeping the network server out of the way in a central computer area. (You will see this application in the notes on the client/server topology, a couple of



pages later in this
tutorial.)

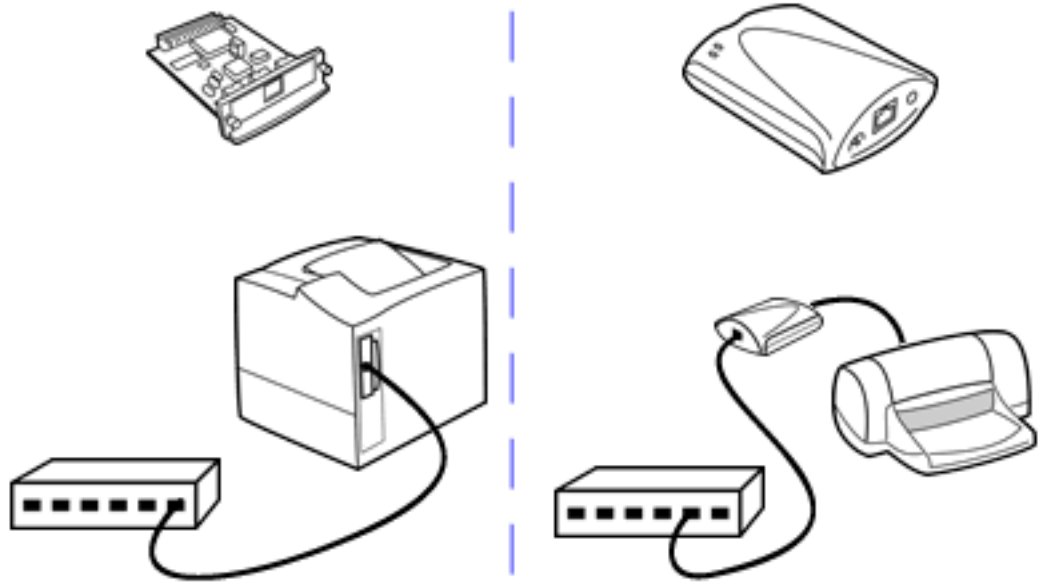


NETWORK PRINTING



Hardware connections

Print servers can be internal or external devices. Which one you choose depends on your printer.



Internal print servers

-- These are special-purpose cards or modules that plug into the built-in input/output slot in the back of some printers. The slot provides the data and power connections for the print server, and the network cable plugs into the network connector on the face of the print server.

Internal print servers come in a variety of configurations to match the style of your printer slot and the type of network connection you need.

External print servers

-- External print servers are for printers that don't have a built-in slot. The print server is a small module that sits next to the printer (or mounts on

the printer using a clip) and connects to the printer's USB or parallel port using a standard printer cable. A network cable plugs into the network connector on the print server, and a power cord connects to a wall outlet to provide the print server's power. (We haven't shown the power cord in the illustration, just to keep the drawing simpler.)

External print servers come in several different configurations to match the printer's data port (USB or parallel) and the type of network connection you need.

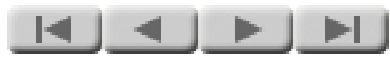
Wireless print servers

-- Wireless print servers come in both internal and external models. Their connections are similar to the those of wired print servers, except that there is no network cable connection. (An antenna in the print server makes the radio-frequency connection to the wireless network.) The connection to the printer, whether by plugging the print server into the printer's input/output slot or connecting a printer cable to the printer's USB or

parallel port, is the same as with a wired print server.



NETWORK PRINTING

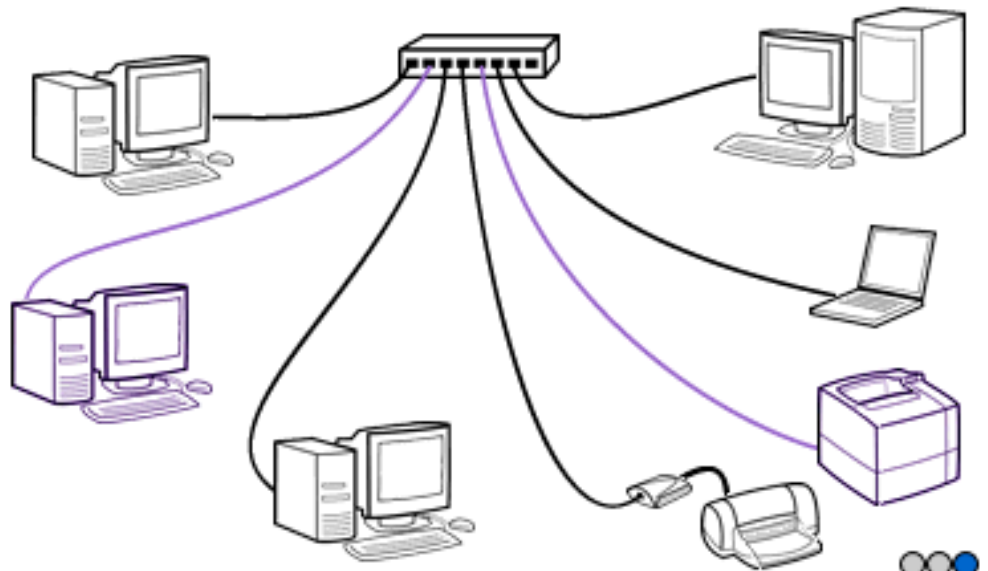


Peer-to-peer topology

There are two standard layouts for network printing using a print server. The first is the peer-to-peer topology, in which a computer sends print jobs directly to the printer.

In peer-to-peer printing, each computer manages the print jobs that it generates. It checks to see whether the printer is ready to accept the print job, and sends the job if the printer is free. If the printer is not free, the computer stores the job and keeps checking the printer until it is ready to accept the job. If several computers send jobs to a printer at the same time, printing for some of the computers may slow down as they spend time checking the printer and waiting for it to be available.

Peer-to-peer printing works well on networks with few users. It is appropriate for small and medium offices, as well as large offices that do not



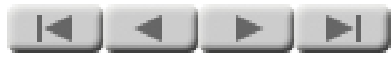
Replay

have heavy printing requirements.

(Note: To clarify the use of similar terminology, please note the distinction between *wireless* peer-to-peer mode (usually known as "ad hoc mode") and HP Jetdirect peer-to-peer *printing*. Wireless peer-to-peer mode refers to a topology where wireless devices communicate directly without going through an access point, while HP Jetdirect peer-to-peer printing refers to a computer's direct print path to a printer that does not go through a network server. HP Jetdirect peer-to-peer printing can be used on both infrastructure and ad hoc (peer-to-peer) wireless topologies.)



NETWORK PRINTING

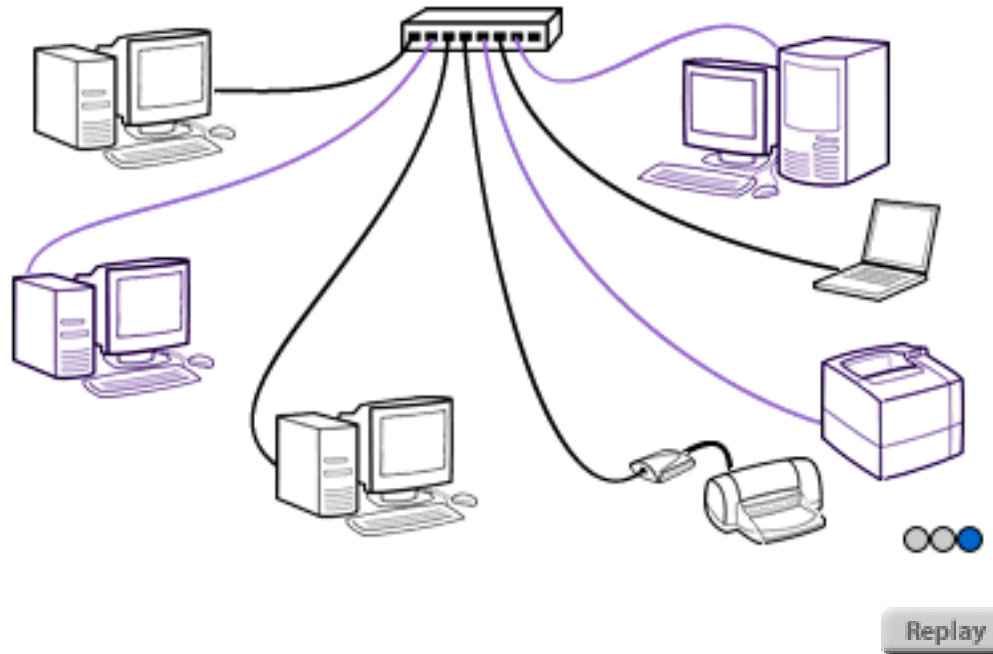


Client / server topology

The second standard layout for network printing is the client/server topology. In this topology, a computer sends its print jobs to a network server, and the server sends the print jobs to the printer.

In client/server printing, the network server manages the print jobs from several computers (the clients). As soon as a client computer has sent a print job to the server, it is finished with that print job. The server keeps track of all print jobs from there on -- figuring out the print order for the various jobs that have been submitted to it, checking the printer's availability, and sending the next job to the printer when it is free.

Client/server printing works well on networks with heavy printing traffic. It is typically used in large offices that have extensive networking



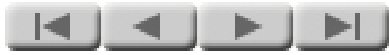
facilities.

Choosing a topology --

If you don't know whether to use a peer-to-peer or a client/server topology, you may want to start with peer-to-peer printing. It generally takes a substantial amount of printing traffic, or large print jobs, to slow down printing significantly. If your print jobs start to take noticeably longer to complete, you may want to try using multiple printers, dividing your network into subnetworks, or switching your office to client/server printing (in that order).



NETWORK PRINTING

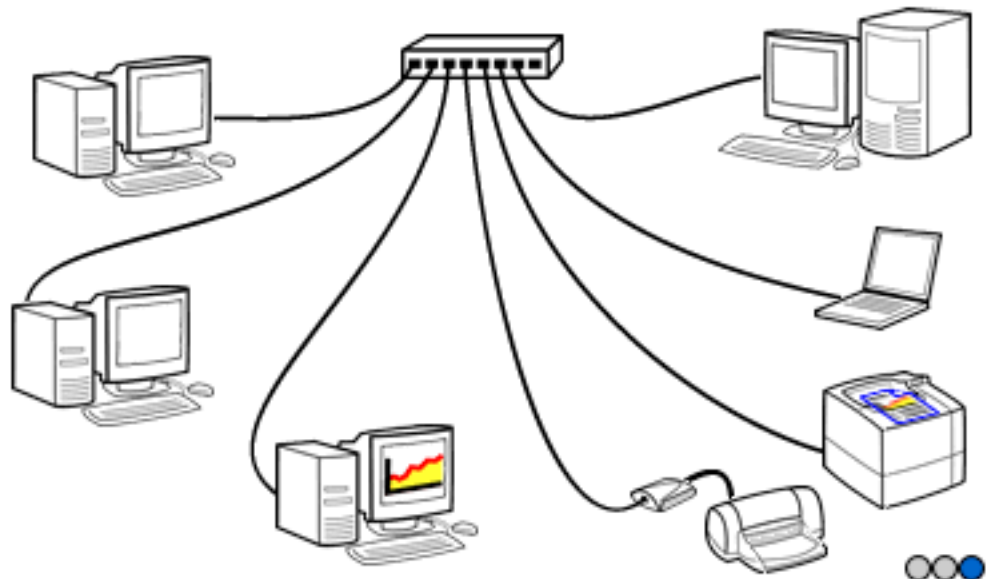


Printer drivers

The printer driver is the last major component to consider in network printing. This driver is system software that converts a document in your computer to a form that makes sense for the printer.

When you print from an application on your computer, it is the printer driver that converts the layout on your screen to the ones and zeros that the printer takes as input. When the printer receives this information, it converts the ones and zeros into a correctly printed page.

The installer program for network printing needs to have the printer driver to complete the installation. It usually turns out that the trickiest thing about the installation is knowing where to find the driver. You may be able to find the driver on the CD that came with your printer, on the Web, or on your operating system CD. If you previously had



Replay

the same printer connected directly to your computer, the right driver may already be on your system. (We will provide more information on finding and using printer drivers in the next section, "Installing a Network Printer".)





Section 3:

Installing a Network Printer

Click the button to continue.



INSTALLING A NETWORK PRINTER



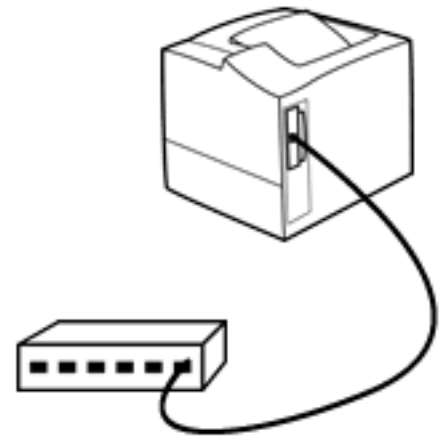
Setting up the hardware

The first stage of installing a network printer is setting up the hardware. There are two steps to this: setting up the printer hardware and connecting the print server.

Set up the printer hardware -- Remove any shipping materials. Install the paper trays and ink or toner cartridges (as appropriate). Add paper. Plug in the power cord and switch on the power. Print a test page. Do not connect the printer to your computer. (For detailed instructions, check your printer manual or setup poster.)

Connect the print server -- There are a couple of different cases to consider:

- ***If you use an external print server:*** Switch off the printer's power.



Connect the printer cable (USB or parallel, as appropriate) between the printer and the print server. Connect the network cable to the print server. Switch on the printer's power. Plug in the print server's power cord. Push the Test button on the print server to print a configuration page on the printer; this tests the connection between the print server and the printer. (For detailed instructions, check your print server manual or setup poster.)

Note: For a wireless print server the connection sequence is the same, except that there is no network cable to connect.

- ***If you use an internal print server:*** Note that many printers come with the print server module

already installed in the printer. If your print server module is not already installed: Unplug the printer's power cord. Plug the print server into its slot in the printer. Connect the network cable to the network connector on the print server. Plug in the printer's power cord. (For detailed instructions, check your print server manual or setup poster.)

Note: For a wireless print server the connection sequence is the same, except that there is no network cable to connect.

Note: If your network wiring is hidden -- In many network installations, the network components (hubs, switches, &c) are stored in a wiring closet and the network wiring is hidden in the walls. The only sign of a network that you see in such an installation is a

wall outlet that has one or two network connectors. In this case, make your network connection by connecting a network cable between the print server and the wall outlet. (If you have any questions about such an installation, check with your network administrator.)

Note that the illustration shows only the data connections (network cables and printer cable); we have omitted power cords from the illustration to keep the drawings simple.



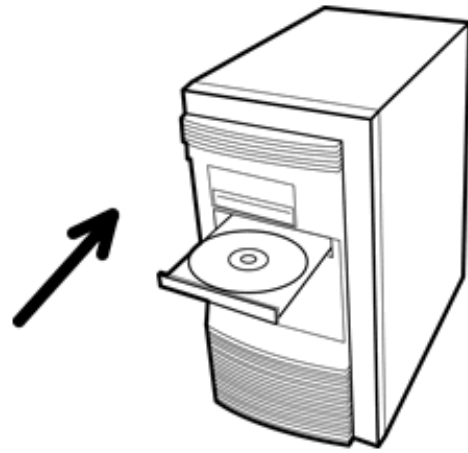
INSTALLING A NETWORK PRINTER



Running the Install Network Printer Wizard ("the installer")

But first, are you installing a wireless print server?

If you are installing a wireless print server, you will need to run the HP Jetdirect Wireless Setup Wizard before running the HP Install Network Printer Wizard. Running the Wireless Setup Wizard is an option that appears when you insert the HP Jetdirect CD into your Windows computer.



The Wireless Setup Wizard guides you through:

- setting your computer to connect to the print server in wireless ad hoc (peer-to-peer) mode
- discovering your wireless printer on the network
- setting a few wireless parameters (communication mode, authentication, and encryption) on the print server

Then you set your computer back to its normal connection to your network, and continue with installing the printer on your computer, using the Install Network Printer Wizard.

The Install Network Printer Wizard

The next (and last) stage of installing a network printer is using the network printing software to install the printer on your computer.

- *If you're setting up [peer-to-peer printing](#)*, you need to run the software and install the network printer on each computer that will print to the target printer.
- *If you're setting up [client/server printing](#)*, you need to run the software and install the network printer on the network server and set it up for printer sharing. Then each client computer must install the printer driver and connect to the shared printer on the network server. An easy way to do this is to use the Microsoft Windows Point and Print function. (See your operating system documentation for details on Point and Print.)

The installer program performs several major functions:

- detects available printers on the network
- helps set up an address for the printer you choose
- installs the printer driver
- optionally sets up printer sharing (only available if running on a Windows NT/2000 network server)

Operation

Note: The next few paragraphs describe the operation of the installer software that resides *on the HP Jetdirect CD*. If you are using the network printer installer that resides *on the printer's CD*, the operation may be slightly different from what we describe here. In particular, some printer CDs do not offer you the option of "Autoconfigure network settings for me". In such a case, the installation will proceed as though you chose the "Let me configure my own network settings" option described below. (If you are trying to decide whether to use the Jetdirect CD or the printer CD, the discussion of [Which CD do I use?](#) may be helpful.)

To run the installer program, insert the CD into your computer's CD-ROM drive. On most systems the CD browser application will start automatically. If it doesn't start automatically on your system, double-click on SETUP.EXE in the root directory of the CD to start it. Once the browser has initialized, it will give you a choice of actions -- choose Install by clicking on the top button.

When the installer starts, it lets you choose how it operates:

- ***Auto-configure network settings for me.***
This is the easy option -- the installer automatically assigns network settings, such as IP addresses. This is probably the right option to choose, unless you are a network administrator and need to assign specific network settings.
- ***Let me configure my own network settings.*** This is the option for advanced users. It gives you control over the IP or NetWare parameters and other network settings that are assigned to the network printer. If you are a network administrator, this may be the right choice for you.

Once you have made this choice, the installer proceeds with its tasks, asking you for the information it needs at each point. If you chose "Auto-configure . . ." it will ask only a few questions; if you chose "Let me configure . . ." it will ask some detailed questions about the setup of network addressing.

Printer drivers

At some point late in the installation, the installer needs to have the printer driver to complete the installation. So at that point the installer may ask you where to find the driver. Knowing where to find the driver is usually the trickiest part of the installation.

Technically speaking, what you need is a driver that installs using a .INF information file (rather than installing by running a .EXE file) There are several alternatives for finding this driver and its .INF file:

- In many cases this is the same driver that is used for a direct (non-networked) printer connection, and you can probably find the driver on the CD that came with the printer. (In fact, some printers come with the network installer program on the printer CD. If your printer is one of these, the simplest way to install your network printer is to run the installer from the printer CD instead of from the HP Jetdirect CD, since the installer knows where to find the driver on the printer CD. For a list of these printers, click on this button:



- If you want to make sure of having the latest driver for your printer, you can download it from the Web. If your printer is an HP printer and you are running the installer in the "Autoconfigure network settings for me" mode, you can select the option to download a driver automatically from the Internet. The installer will search the HP support site for a driver for your printer and, if it finds one, will automatically download it and install it for you. If you don't select the option to download a driver automatically from the Internet, you can download one manually before you run the installer. The HP support site at <http://www.hp.com/cposupport/software.html> has current drivers for most HP printers.
- You may be able to find the driver on your operating system disc. If the operating system is more recent than the printer, it probably includes a driver for that printer.

- If you previously had a direct connection from your computer to the same printer, or a network connection to another printer of the same model, the network printer installer may be able to use the driver that is already on your computer.

The installer software takes the driver location you specify, finds the driver, and installs it in your system.

Once the installer has finished, you are ready for network printing from your computer.

The End

When installing the network printing software, some users are unsure when the installation is complete. When the network printer is installed on your computer and you can print to it, the installation is complete.

Confusion sometimes arises in the situation when you have two CDs -- a printer CD and the HP Jetdirect CD -- and you have just finished the installation from the printer CD. It is common to wonder whether you should run the installer on the Jetdirect CD as well. You don't need to. Once your network printer prints successfully, you're done with the installation on that computer. (Of course, if you are installing the network printer software for peer-to-peer printing from several computers, you will need to run the installer from each computer.)



INSTALLING A NETWORK PRINTER

DETAIL

Return

Printers that include the network installer

Many newer HP printers (January 2000 or later), including multifunction peripherals (MFPs) and All-in-One devices, include network installation software on the printer CD. If your printer is in the list below, use the printer CD for installation.

HP LaserJet 1200
HP LaserJet 1220
HP LaserJet 2200
HP LaserJet 3300 series
HP LaserJet 4100 series
HP LaserJet 9000
HP LaserJet 9000MFP
HP Business Inkjet 2280
HP Color Inkjet cp1160
HP Deskjet 5550
HP Officejet D series

If your printer is not identified above, or you cannot locate your printer's CD, you should:

- First, locate your printer's driver. (The summary on the preceding page should help you.)
- Then, run the installer from the HP Jetdirect CD.

Note that if you use the HP Jetdirect CD for MFP or All-in-One devices, some features other than printing (such as scanning and faxing) may not be accessible. Use the printer CD to get all features.

Note: An HP Web Jetadmin CD-ROM may also be included with selected HP JetDirect products. HP Web Jetadmin is a feature-rich printer management tool. However, it is not required for network printer installation.

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End of Network Basics tutorial

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Tips on Getting Started

Background

Installing a network printer is quite straightforward:

- First, you set up your hardware. This involves setting up your printer, and then setting up a print server to connect the printer to your network.
- Then, you run the network printing software to install the printer on your computer.

If you have purchased your printer and print server separately, you probably have two sets of documentation and two installation CDs -- which do you use? The section below on [Which CD do I use?](#) should help you get started in the right place.

In addition, sometimes it's not immediately apparent where to find the printer driver that the installer needs. The section below on [Where do I find the printer driver?](#) provides some useful pointers.

Finally, the section below on [When do I stop?](#) answers questions about when the installation process is complete and whether, if you have two CDs, you need to use both of them.

If you would like a brief overview of what networks and network printing are about, along with some additional detail on the installation process, click here for [The Network Basics Tutorial](#).

Which CD do I use?

If you have both a printer CD and the Jetdirect CD, the steps below will help you

decide which one to use.

Step 1: Is the print server's network connection wireless or wired?

- **Wireless:** Go to step 4.
- **Wired:** Go to step 2.

Step 2: Is the printer on the following list?

HP LaserJet 1200
HP LaserJet 1220
HP LaserJet 2200
HP LaserJet 3300 series
HP LaserJet 4100 series
HP LaserJet 9000
HP LaserJet 9000MFP
HP Business Inkjet 2280
HP Color Inkjet cp1160
HP Deskjet 5550
HP Officejet D series

- **No:** Go to step 3.
- **Yes:** Use the printer CD. (It knows where to find the printer driver.) When prompted, select the network connection option.

Step 3: Is the printer an MFP (multifunction printer) or an Officejet All-in-One printer?

- **No:** Go to step 4.
- **Yes:** Use the printer CD to install the printer as if it were connected directly to your computer; this will install the printer driver on your computer. (You don't need to make any physical connection with a printer cable; just specify "parallel" when asked for the port.) Then use the Jetdirect CD to install the printer as a network printer. (This will use the printer driver that you just installed on the computer, and will set up the print path to the printer via the network.)

Note: Only the printing function will be available over the network. Other functions, such as scanning and faxing, will not be available over the network.

Step 4: For other HP printers or non-HP printers:

Use the Jetdirect CD to install the printer on your network. (You will need to know where your printer driver is located. See [Where do I find the printer driver?](#) for more information.)

Note: An HP Web Jetadmin CD-ROM may also be included with selected HP Jetdirect products. HP Web Jetadmin is a feature-rich printer management tool. However, it is not required for network printer installation.

Where do I find the printer driver?

At some point late in the installation, the installer software needs to have the printer driver to complete the installation. So at that point the installer may ask you where to find the driver. Knowing where to find the driver is usually the most subtle part of the installation.

If you are running the installer from your printer CD, the installer generally knows right where to look for the driver -- on the CD. If you are running the installer from the Jetdirect CD, the installer will probably need you to tell it where the driver is. Here are a few places you can look:

- The best source of a driver for your printer is the Web, because that gives you the latest driver. (The drawback of getting your driver from the Web is that some drivers are quite large, and may take several minutes to download at modem speeds. We think it's worth spending the time.) The HP support site at http://www.hp.com/go/get_software has current drivers for most HP printers.

If your printer is an HP printer and you are running the installer from the HP Jetdirect CD in the *Autoconfigure network settings for me* mode, you can select the option to download a driver automatically from the Internet. The installer will search the HP support site for a driver for your printer and, if it finds one, will automatically download it and install it for you. If you don't select the option to download a driver automatically from the Internet, you can download one manually before you run the installer.

- In many cases the driver is the same one that is used for a direct (non-networked) printer connection, and you can probably find the driver on the CD that came with the printer.

In technical terms, what you need is a driver that installs using a .INF information file (rather than installing by running a .EXE file). Make sure that your driver files include the .INF file. (If you can't find the printer's .INF file, you may have to download the driver from the Web.)

- You may be able to find the driver on your operating system disc. If the operating system is more recent than the printer, it probably includes a driver for that printer.
- If you previously had a direct connection from your computer to the same printer, or a network connection to another printer of the same model, the network printer installer may be able to use the driver that is already on your computer.

The installer software takes the driver location you specify, finds the driver, and installs it in your system.

When do I stop?

Essentially, you are finished with the installation process when you have a network printer installed on your computer and you can print to it. That's usually when the test page prints successfully.

If you have two CDs -- a printer CD and the HP Jetdirect CD -- and you have just run the installer from the printer CD, it's common to wonder whether you should be running the installer on the Jetdirect CD as well. ("After all, that second CD must be there for a reason. Maybe I should run that installer, too, just to be sure. . . .") You don't need to do that. Once your network printer prints successfully, you're done. (We put the installer on the Jetdirect CD for situations where you can't find your printer CD, or where the printer CD's installer doesn't deal with network printers. If your printer CD does handle network printers, just run that installer and stop when it's done.)



General information

on the HP Jetdirect 280m print server



General description

The HP Jetdirect 280m is an LIO print server module. That is, it plugs into the LIO slot of certain HP printers and provides network connections for those printers. Formally speaking, it is:

J6044A HP Jetdirect 280m 802.11b internal wireless print server

This print server connects to 802.11b wireless networks.

The print server includes an embedded Web server that allows remote management through a Web browser.

Compatibility

This print server connects to wireless networks that are compatible with the IEEE 802.11b standard. It can connect to devices on such networks either directly ("ad hoc" or "peer-to-peer" mode) or through a wireless access point ("infrastructure mode"). It can also connect through an access point to wired Ethernet networks.

The 280m print server supports both peer-to-peer and client/server printer networking under TCP/IP; peer-to-peer printer networking under IPX/SPX (direct mode), Apple EtherTalk, and lpd printing; client/server IPX/SPX printer networking under Novell NetWare; and DLC/LLC, FTP and IPP printing. These protocols are, in various combinations, supported on these operating systems: Windows (98, 2000, ME, NT 4.0, XP, and XP 64-bit), MacOS, Novell NetWare, IBM OS/2 Warp, HP-UX, Solaris (on SPARC systems), SCO UNIX, IBM AIX, MPE-IX, and Artisoft LANtastic. See the section on [Specifications](#) for details of which operating systems support which protocols.

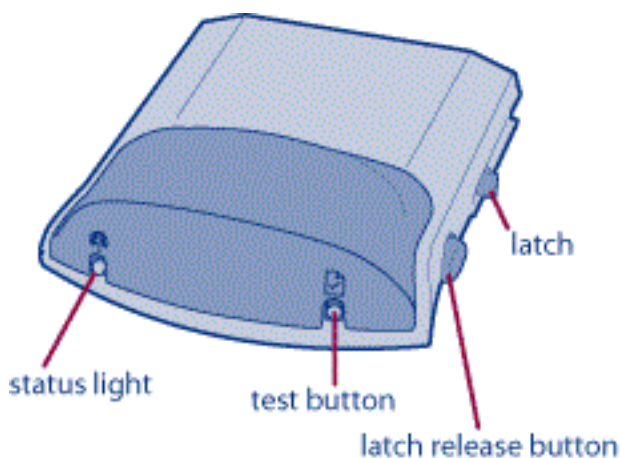
The Jetdirect 280m print server supports both 40/64-bit and 128-bit WEP encryption. In addition, it supports several 802.1x authentication protocols: LEAP, PEAP, EAP-MD5, EAP-TLS, and EAP-TTLS.

The embedded Web server, which allows you to monitor and manage the print server remotely, requires Microsoft Internet Explorer 5.0 or later, or Netscape Navigator 4.75 or later.

See the [Specifications](#) section for more details on the print server.

Nomenclature

The main parts of the print server are shown in the illustration:



The print server module plugs into the LIO slot of the printer until the **latches** click into place for a secure connection. (To unplug the print server, you press the **latch release buttons** and pull the print server out of the LIO slot.) The **status light** shows the state of the wireless network connection and the health of the print server (see the light codes in the Troubleshooting section on the setup poster that came with the print server). You push the **test button** to print a configuration page on the attached printer (see the section on the HP Jetdirect configuration page in the [HP Jetdirect Administrator's Guide](#)).

Package contents

The HP Jetdirect 280 m product includes:

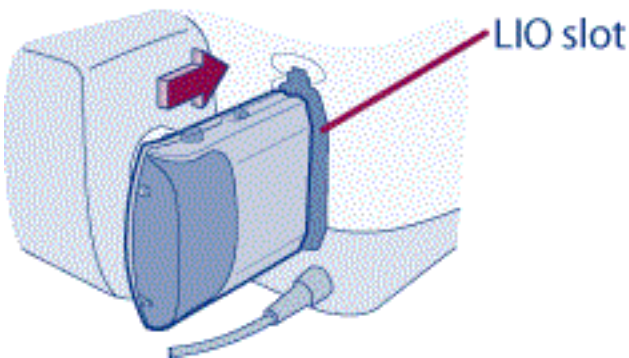
- print server module
- HP Jetdirect CD (includes installation software, manuals, and troubleshooting)
- setup poster

Installation

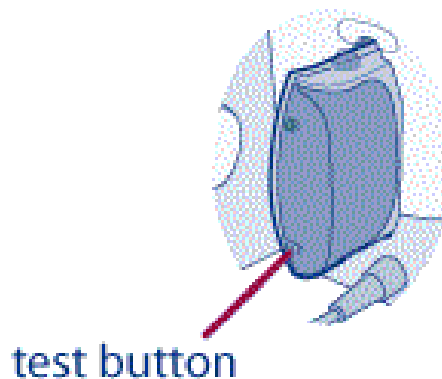
There are two parts to installing the print server: hardware installation and software installation. You should install the hardware first.

Hardware installation

1. **Set up the printer hardware.** Do not connect the printer to your computer with a USB or parallel cable.
2. **Switch on the printer's power.**
3. **Plug in the print server.** Push it into the LIO slot on the back of the printer until it clicks into place.



4. **Print a configuration page by pushing the Test button (📄 icon) on the print server.** If the page does not print successfully, see the [troubleshooting](#) section.



Software installation

1. **Configure the wireless printer to communicate on your network.**

You will use the HP Jetdirect Wireless Setup Wizard for this task. (This step puts the printer on your wireless network. It is functionally equivalent to plugging the network cable into a printer on a wired network.)

a. **Choose a *wireless* computer from your wireless network.**

During the configuration your computer will be communicating with the wireless printer in *ad hoc* mode, which involves direct wireless communication between the computer and the printer (without going through a wireless access point).

b. **Make a note of your computer's wireless settings.** You will configure these settings onto the wireless printer.

- Mode (network type): Ad hoc (peer-to-peer) or Infrastructure (using a wireless access point)
- Network name (SSID)
- Encryption and authentication settings

c. **Insert the HP Jetdirect CD into the wireless computer's CD-ROM drive.** (If the CD does not automatically start, run SETUP.EXE from your CD-ROM drive.)

You will use the Wireless Setup Wizard on this CD to:

- change the wireless settings on your computer to communicate with the wireless printer
- download the new network configuration to the printer

d. **Run the Wireless Setup Wizard.** From the CD's opening screen:



Click "Install".



Select "Wireless", then click "Next".



Select "Yes", then click "Next".



Select "Step 1 -- Configure printer's wireless settings", then click 'Next'.



- The Wireless Setup Wizard starts. We recommend that you click on the image in the Help panel to view the Overview. The Overview explains the subtleties of wireless setup.
- e. **Continue with the Wireless Setup Wizard.** When you have completed the Overview section of the Help, return to the opening screen of the Wizard and click "Next" to continue. Then follow the instructions that appear on the screen.

The Wizard will establish communication with the printer. It will try to change your computer's wireless configuration so it can talk to the printer. If it can't do this automatically, it will ask you to do it manually (using your wireless card's configuration utility or [using the built-in functions of Windows XP](#)).

When the Wizard finds the printer, it will ask you for its new configuration parameters. You will supply these from the information you wrote down in step 1b, above. The Wizard will then download the new configuration to the printer. At this point the printer becomes part of your wireless network.

Finally, the Wizard will try to change your computer back to its original wireless configuration, so it can talk on your network. If the Wizard can't do this automatically, it will ask you to do it manually.

2. **Configure the computer to print to the printer.** You will use the HP Jetdirect Install Network Printer Wizard for this task. This step installs the printer driver on the computer and sets up the print path from the computer to the printer.
 - a. **Run the Install Network Printer Wizard.** When the Wireless Setup Wizard completes, you will return to this screen.



Since the printer is now configured, this time choose "Yes", and on the next screen choose



"Step 2 -- Install the printer on this computer". The Install Network Wizard will start. Follow the instructions on the screen to configure your computer to print to the newly installed wireless printer.

You will need to have your printer driver available for installation. If you don't have the driver, you can get it from the Web at www.hp.com. If the driver is already on your system (from a directly connected printer), the installer software can use that driver.

- b. **Configure other computers on your network.** Run the Install Network Printer Wizard on the other computers on your network to configure them to print to the new printer. To run the Wizard:
 - Insert the HP Jetdirect CD into the computer's CD-ROM drive. (If the CD does not automatically start, run SETUP .EXE from your CD-ROM drive.)
 - On the opening screen, click "Install".
 - Select "Wireless", then click "Next".
 - Select "Yes, the wireless settings have been configured . . .", then click "Next".
 - Select "Step 2 -- Install the printer on this computer", then click "Next". This will start the Install Network Printer Wizard.

Note: If you have a large network and are setting up a client/server printing environment, set up the wireless printer as you would any other (wired) network printer.

Using Windows XP to set the computer's wireless configuration

You can use the built-in configuration utility in Windows XP to configure your computer's wireless settings. To get to the configuration screen:

1. On the desktop, select "My Network Places".
2. Select "View network connections" under "Network Tasks".
3. Select "Wireless Network Connection" in the "LAN or High-Speed Internet" list.

You can view "Details" in the column on the left to see basic connection information.

4. Double-click "Wireless Network Connection" to get the "Wireless Network Connection Status" dialog box.
5. Select "Properties" to get the "Wireless Network Connection Properties" dialog box.
6. Click on the "Wireless Networks" tab, if necessary.

From this point you can perform several configuration tasks.

To set the wireless communication mode click on the "Advanced" button and select the mode you want.

To set the network name (SSID) and encryption click on the "Add" button under "Preferred networks" and fill in the network name and encryption information. (Encryption and authentication are off by default.) When you return to the "Wireless Networks" screen, you may need to use the "Move up" button to move the network name to the top of the list.

To set the authentication method click on the "Authentication" tab and select the appropriate configuration parameters.

Troubleshooting

for the HP Jetdirect 280m print server

[Quick checks](#)

[Full diagnosis](#)

Some useful techniques:

[Interpreting the status light](#)

[Printing a configuration page](#)

[Interpreting a configuration page](#)

[Resetting to factory defaults \(cold reset\)](#)

Quick Checks

Here are a few common problems, and some possible corrections:

• Problems during installation

1. ***Computer can't communicate with wireless print server during initial configuration.*** The Wireless Setup Wizard expects your computer to match the print server's factory default wireless configuration:

- Mode: Ad hoc (peer-to-peer)
- Network name (SSID): hpsetup
- Encryption: disabled

Make sure you are running the Wizard from a *wireless* computer, and that your computer matches these settings. (Use your wireless card's configuration utility or [Windows XP](#) to check and change these settings.)

2. ***Wizard does not discover printer.*** Print server may not be set to factory default configuration, so Wireless Setup Wizard will not find it. Reset print server to factory default configuration ([click here for procedure](#)).
3. ***Test page does not print.***

- Make sure that you reconfigured your computer at the end of the Wireless Setup Wizard. When you use the Wizard, you start by changing your computer's configuration so it can talk to the unconfigured print server. At the end of the Wizard, you must change your computer's configuration back to its original settings, so it can talk on your network. The Wizard tries to make those configuration changes for you, but it can't make them in all cases. If you had to make the first set of changes manually, you will also have to make the second set of changes manually. (Use your wireless card's configuration utility or [Windows XP](#) to check and change these settings.) If you didn't reconfigure, your computer is not on the same network as your printer, so it can't print to it.
- Make sure that you completed both the Wireless Setup Wizard and the Install Network Printer Wizard. The first puts the computer on your network, the second sets up the print path from your computer to the printer.

- **Problems during normal operation**

1. ***IP address of printer changed.*** If your printer gets its IP address from a DHCP server -- including a residential gateway -- and the print server's power is removed (print server unplugged or printer power unplugged), the print server may receive a new IP address from the DHCP server when its power is applied again. In that case, computers printing to the printer's old IP address will not be able to find the printer. Use the Install Network Printer Wizard to re-install the printer on each of the computer on the network. Also consider assigning a static IP address to the printer, if possible, to prevent recurrence of this problem. (If you're going to change to a static IP address on the printer, do that before you re-install the printer on the computers.)
2. ***Network security configuration changed.*** If your network administrator changes your network's encryption keys periodically to increase network security, make sure that you change the printer's keys when the network's keys change. (If the network access point and the computers change but the printer does not, the printer is no longer on the network.)

If these quick checks don't point to your problem, use the full diagnostic procedure, below.

Full diagnosis

This interactive troubleshooter asks you questions about your print server. You answer by clicking on the appropriate buttons, and the troubleshooter leads you to a diagnosis of your problem. If it can't find the problem, it refers you to HP technical support.

Click on the button below to start troubleshooting.



Check the Status light.

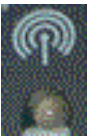
Check the Status light on the print server. In the table below, click on the description that matches the light's behavior.



[Off](#)



[On, solid green](#)



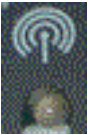
[Green, blinking slowly](#)



[Amber, blinking slowly](#)



[Green, blinking quickly](#)



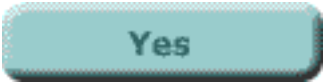
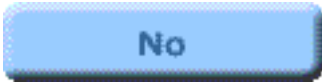
[Green, flickering](#)

Is the printer ON and ONLINE?

The print server is not receiving power. First, make sure that the printer is operating properly. Check these items:

- **Is the printer plugged in and switched on?** Make sure that the printer is plugged in and switched on. If your printer has a front panel display, it should not be blank. If you have checked these items and the printer still shows no sign of being on, you may have a defective power cable, power source, or printer.
- **Is the printer online?** The ONLINE or POWER light should be lit. If it is not, press the appropriate key (such as ON LINE or GO) to place the printer online. If your printer has a front panel display, check that it says "Online" or "Ready".
- **Is the FORM FEED light on?** If your printer has a FORM FEED light and it is on, it may indicate that a print job is waiting to be printed. Take the printer offline (if necessary), press the FORM FEED key, and then put the printer back online. If a print job starts (or continues) to print, wait for it to complete.

After looking through the list above and making any necessary changes, is your printer on and online now?

A teal-colored button with rounded corners and a slight 3D effect, containing the word "Yes" in a dark blue, sans-serif font.A light blue-colored button with rounded corners and a slight 3D effect, containing the word "No" in a dark blue, sans-serif font.

Did the print server's Status light come on?

The printer appears to be working. Next, check these items:

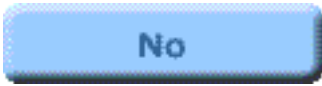
1. ***Check that the print server is seated firmly*** in the printer's LIO slot.
2. If that doesn't cause the Status light to come on, ***remove and re-insert the print server***, as follows:
 - a. Grasp and press the latch buttons (one on each side of the print server) and pull the print server out of the printer's LIO slot.
 - b. Re-insert the print server into the LIO slot, making sure that it seats firmly in the slot and that the latches click into place.

Note: When you first apply power to a normally operating print server (by plugging it in to the printer's LIO slot), the Status light will slowly blink green for several seconds during self-test. When it has completed self-test, it will continue to blink green until it establishes a valid network connection. Once the print server connects to a network, the Status light will go ON solid green, or will flicker intermittently to show network activity; this indicates that the unit is ready for operation.

After checking the items above and making any necessary changes, is the Status light now on (any color, any blink pattern)?

If Yes, click on the Yes button to return to the start of the troubleshooting procedure and evaluate the current state of the Status light.

If No, your print server may be faulty. Fixing such a fault requires assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.

A light blue, rounded rectangular button with the word "Yes" in a dark blue, sans-serif font.A light blue, rounded rectangular button with the word "No" in a dark blue, sans-serif font.

Does your printer have a control panel display?

Is there a display panel on the front of your printer that provides messages about the printer's status?

Yes

No

Does the control panel display on your printer show an error message?

Yes

No

Check your printer manual.

There appears to be a printer error. Please refer to your printer manual for further information on how to correct the error, or for information on how to contact Hewlett-Packard technical support if you can't correct the error. (Note that your printer manual may be either printed on paper or stored electronically on a CD-ROM.)

After you have resolved the printer error, if you still have problems connecting the printer to the network you can restart this troubleshooting utility. Click on the button below to return to the beginning of troubleshooting for the HP Jetdirect 280m print server.

A blue, rounded rectangular button with a slight 3D effect and a shadow. The word "Continue" is written in a bold, blue, sans-serif font in the center of the button.

Continue

Check your printer manual.

Please refer to your printer manual for further information on what the error means and how to correct it. (Note that your printer manual may be either printed on paper or stored electronically on a CD-ROM.)

After you have resolved the printer error, if you still have problems connecting the printer to the network you can restart this troubleshooting utility. Click on the button below to return to the beginning of troubleshooting for the HP Jetdirect 280m print server.

A blue, rounded rectangular button with a subtle gradient and a slight shadow, containing the word "Continue" in a bold, blue, sans-serif font.

Check your printer manual.

There appears to be a printer error. If the printer is still not online and does not show an error message on the control panel display, please refer to your printer manual for further information on how to correct the error, or for information on how to contact Hewlett-Packard technical support if you can't correct the error. (Note that your printer manual may be either printed on paper or stored electronically on a CD-ROM.)

After you have resolved the printer error, if you still have problems connecting the printer to the network you can restart this troubleshooting utility. Click on the button below to return to the beginning of troubleshooting for the HP Jetdirect 280m print server.

A blue, rounded rectangular button with a slight 3D effect and a shadow. The word "Continue" is written in a bold, blue, sans-serif font in the center of the button.

Continue

Can you print to the wireless printer?

The Status light indicates that the wireless printer is communicating successfully on a wireless network.

Can you print from a computer to the printer?

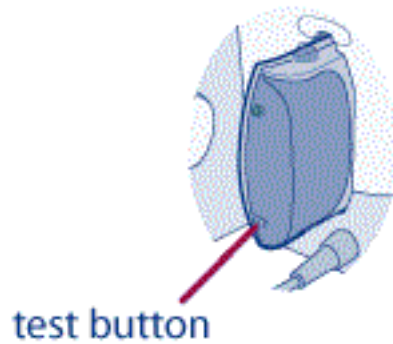
Yes

No

Print a Jetdirect configuration page.

Print a Jetdirect configuration page:

- Press the test button ( icon) on the print server.



Does the configuration page print successfully?

Yes

No

Configuration page does not print, or is unreadable.

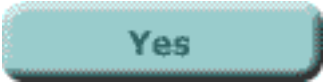
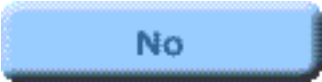
If the configuration page does not print successfully, try the steps below.

1. Make sure that the printer and the print server are powered on.
2. Make sure that the printer is Online or Ready.
3. It may be necessary to re-initialize the connection between the printer and the print server by cycling power on the print server. (Unplug the print server from the printer; then plug it back in.) Do this with the printer switched ON.

Can you now print a Jetdirect configuration page?

If yes, click on the Yes button to continue.

If no, your print server has a problem that requires assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.

A teal-colored button with rounded corners and a slight 3D effect, containing the word "Yes" in a dark blue, sans-serif font.A light blue-colored button with rounded corners and a slight 3D effect, containing the word "No" in a dark blue, sans-serif font.

Are there error messages?

Check the configuration page for error messages.

The Status entry near the top of the page gives a good first indication of the state of the print server. Other entries provide additional detail. Refer to the page on [Interpreting the configuration page](#) for detailed information on the meanings of the entries.

Are there error messages on the configuration page?

Yes

No

Fix errors.

Fix any errors for which solutions are apparent. The page on [Interpreting the configuration page](#) may provide useful information.

If you fix any errors, then cycle power on the printer, as follows:

- Switch off the printer.
- Unplug the printer's power cord.
- Plug the power cord back in again.
- Switch on the printer.

(This procedure is recommended because many printers maintain power for fast warm-up even when the power switch is switched off. Unplugging the power cord ensures that power is removed from the printer.)

Did you make any changes?

If yes, click on the Yes button to go back to the beginning of the troubleshooting procedure.

If no, your print server has a problem that requires assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.

Yes

No

Is the computer on the right network?

Check that the computer (from which you are attempting to print) is on your wireless network. Can your computer communicate with other computers or printers on your wireless network?

(If the HP Jetdirect Wireless Setup Wizard did not automatically switch your computer's wireless configuration when it completed, your computer may still be configured for the "hpsetup" network. If so, you will need to change the computer's configuration manually so it can communicate on your wireless network.)

You can check (and change) your computer's wireless configuration using the setup utility that came with your computer's wireless card, or [using the configuration utility that is part of Windows XP](#).

Is your computer communicating on your wireless network?

Yes

No

Fix your computer's wireless configuration.

1. Use the wireless setup utility that came with your computer's wireless card, or the [configuration utility that is part of Windows XP](#), to **change the computer's configuration** so that it can communicate on your wireless network.
2. **Then run the Install Network Printer Wizard** to configure your computer to print to the wireless printer. If the computer does not find the wireless printer, run the Wireless Setup Wizard instead, and then run the Install Network Printer Wizard.
 - To run the Install Network Printer Wizard, insert the HP Jetdirect CD into your computer; select "Install"; select "Wireless"; select "Yes, the wireless settings have been configured . . ."; and select "Step 2 -- Install the printer on this computer".
 - To run the Wireless Setup Wizard, insert the HP Jetdirect CD into your computer; select "Install"; select "Wireless"; select "No, the wireless settings have not been configured . . ."; and select Step 1 -- Configure printer's wireless settings".

End of troubleshooting procedure.

Is the printer on the same network as the computer?

The solid or flickering green Status light on the print server indicates that the printer is connected to *a* wireless network, but it doesn't ensure that the printer is connected to the *right* wireless network.

Check your printer's wireless configuration by looking at the configuration page you recently printed (or simply print another one). Compare the printer's wireless configuration to the wireless configuration of the computer. Check these parameters:

- Mode of operation: ad hoc (peer-to-peer) or infrastructure (through a wireless access point)
- Network name (SSID)
- Encryption configuration
- Authentication configuration

(If the computer you are attempting to print from is not a wireless computer but is on a network that is connected to your wireless network, check that the printer's configuration matches the configuration of a *wireless* computer on the wireless network.)

Note: If the printer's wireless configuration is:

- Mode: ad hoc (peer-to-peer)
- Network name (SSID): hpsetup
- Encryption/authentication: disabled

then the print server is set to its factory default configuration and needs to be configured. In that case, exit this troubleshooting procedure and run the Wireless Setup Wizard and the Install Network Printer Wizard. (Start by inserting the HP Jetdirect CD into your computer. When the main screen comes up, select "Install"; then select "Wireless"; then select "No, the wireless settings have not been configured . . ."; then select "Step 1 -- Configure printer's wireless settings".)

Is the printer's wireless configuration the same as the computer's wireless configuration?

Yes

No

Reconfigure your printer.

Your wireless printer is not properly configured to communicate on your wireless network. Exit this troubleshooting procedure and take the following steps:

1. **Reset the print server to its factory default configuration.** ([Click here for instructions.](#))
2. **Run the Wireless Setup Wizard and the Install Network Printer Wizard.** To start the Wireless Setup Wizard, insert the HP Jetdirect CD into your computer. When the main screen comes up, select "Install"; then select "Wireless"; then select "No, the wireless settings have not been configured . . ."; then select "Step 1 -- Configure printer's wireless settings".

End of troubleshooting procedure.

Does your printer get an IP address via DHCP or BOOTP?

Some printers get a network address dynamically, via DHCP -- including most residential gateways -- or BOOTP.

Does your printer get its address via DHCP or BOOTP?

If your printer gets its address dynamically, click Yes.

If your printer uses a static address, this troubleshooting procedure has gone as far as it can go. You will require further assistance from HP technical support to isolate the problem. Click No for information on contacting HP technical support.

Yes

No

Does your printer have an IP address?

If you have set up your printer to have an IP address (rather than an address from some other communication protocol, such as IPX or AppleTalk), does that address actually exist?

Check the TCP/IP section of the Jetdirect configuration page to see whether an address (other than 0.0.0.0) has been assigned to your printer. Make sure that the address is a valid address for your network's addressing scheme.

Does your printer have an IP address?

Yes

No

Retry.

It appears that a dynamic IP address has not be successfully assigned to the printer, or that you are using a network protocol other than IP.

If you are using the IP protocol, follow these steps:

1. Wait two minutes. Sometimes it takes a couple of minutes for dynamic IP addresses to be assigned.
2. Print a new configuration page and check for a valid IP address.
3. If there is still no valid IP address for the printer, cycle the printer's power:
 - Switch off the printer.
 - Unplug the printer's power cord.
 - Plug the power cord back in again.
 - Switch on the printer.
4. Check that your network's DHCP or BOOTP server is functioning properly.

After following the above steps, does your printer now show a valid IP address?

If yes, click the Yes button to continue with the troubleshooting procedure.

If no, you will need further assistance. Click No for details on how to contact HP technical support.

Yes

No

Has the printer's IP address changed?

It is possible for the printer's IP address to change if the printer gets its address via DHCP and its power gets switched off -- when the power comes back on and the printer requests an address from the DHCP server, the server may give it a different address from the one it had before.

If the printer's IP address has changed, then a computer that tries to print to the old address will not be successful.

Check the address of the target printer in the printer control panel *of the computer*.

Is the IP address for this printer in the computer's printer control panel different from its address on the printer's Jetdirect configuration page?

Yes

No

Rerun the Install Network Printer Wizard.

The address of the printer in the computer's printer control panel matches the address listed on the printer's Jetdirect configuration page, but for some reason the computer can not print to the printer.

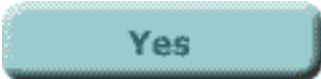
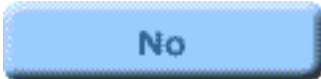
Try installing the printer on the computer again, by running the Install Network Printer Wizard. (To run the Install Network Printer Wizard, insert the HP Jetdirect CD into your computer; select "Install"; select "Wireless"; select "Yes, the wireless settings have been configured . . ."; and select "Step 2 -- Install the printer on this computer".)

If the Install Network Printer Wizard can not find the printer on the wireless network, run the Wireless Setup Wizard and then the Install Network Printer Wizard. (To run the Wireless Setup Wizard, insert the HP Jetdirect CD into your computer; select "Install"; select "Wireless"; select "No, the wireless settings have not been configured . . ."; and select "Step 1 -- Configure printer's wireless settings".)

Did running the Install Network Printer Wizard solve the problem?

If yes, you have completed the troubleshooting procedure successfully.

If no, the troubleshooting procedure has gone as far as it can go. You will need further assistance from HP technical support. Click on No for information about contacting HP technical support.

A light green rectangular button with rounded corners and a subtle gradient, containing the word "Yes" in a dark blue font.A light blue rectangular button with rounded corners and a subtle gradient, containing the word "No" in a dark blue font.

Rerun the Install Network Printer Wizard.

The IP address of the printer has changed. You will need to run the Install Network Printer Wizard to configure the computer to print to the printer at its new address. (To run the Install Network Printer Wizard, insert the HP Jetdirect CD into your computer; select "Install"; select "Wireless"; select "Yes, the wireless settings have been configured . . ."; and select "Step 2 -- Install the printer on this computer".)

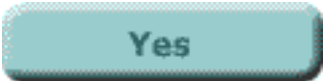
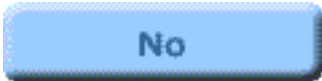
You should consider assigning a static IP address to the printer, to keep the address from changing in the future (and causing the same problem again). The Install Network Printer Wizard offers you an opportunity to specify the IP address for the printer.

If the Install Network Printer Wizard can not find the printer on the wireless network, run the Wireless Setup Wizard and then the Install Network Printer Wizard. (To run the Wireless Setup Wizard, insert the HP Jetdirect CD into your computer; select "Install"; select "Wireless"; select "No, the wireless settings have not been configured . . ."; and select "Step 1 -- Configure printer's wireless settings".)

Did running the Install Network Printer Wizard solve the problem?

If yes, you have completed the troubleshooting procedure successfully.

If no, the troubleshooting procedure has gone as far as it can go. You will need further assistance from HP technical support. Click on No for information about contacting HP technical support.

A teal-colored button with rounded corners and a slight 3D effect, containing the word "Yes" in a dark blue, sans-serif font.A light blue-colored button with rounded corners and a slight 3D effect, containing the word "No" in a dark blue, sans-serif font.

Wait for self-test to complete.

The print server is receiving power but is not ready. This could be due to:

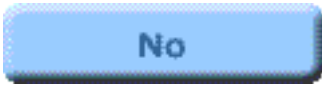
- self-test still in progress
- no network connection -- the print server can not find a network with the same name and settings as it is configured for

Wait one minute to allow the self-test to complete.

Is the Status light still green, blinking slowly?

If yes, click the Yes button to continue with the next troubleshooting step.

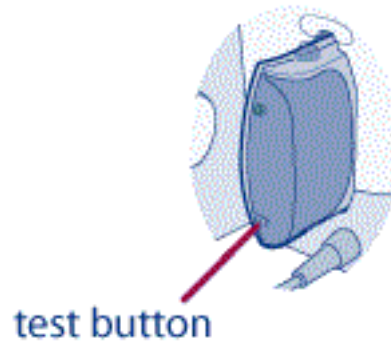
If no, click the No button to return to the start of the troubleshooting procedure and evaluate the state of the Status light.

A teal-colored button with rounded corners and a slight 3D effect, containing the word "Yes" in a dark blue, sans-serif font.A light blue-colored button with rounded corners and a slight 3D effect, containing the word "No" in a dark blue, sans-serif font.

Print a Jetdirect configuration page.

Take these steps:

- **Wait two minutes.** This allows the print server to attempt to connect to the network.
- **Print a Jetdirect configuration page:**
 - Press the test button (🖨️ icon) on the print server.



Does the configuration page print successfully?

Yes

No

Configuration page does not print, or is unreadable.

If the configuration page does not print successfully, try the steps below.

1. Make sure that the printer and the print server are powered on.
2. Make sure that the printer is Online or Ready.
3. It may be necessary to re-initialize the connection between the printer and the print server by cycling power on the print server. (Unplug the print server from the printer; then plug it back in.) Do this with the printer switched ON.

Can you now print a Jetdirect configuration page?

If yes, click on the Yes button to continue.

If no, your print server has a problem that requires assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.

Yes

No

Are the printer and the computer on the same network?

You can check the wireless configuration of your computer by using the setup utility that came with your computer's wireless card, or by [using the configuration utility in Windows XP](#). Compare the computer's wireless configuration with the configuration of the printer by looking at the Jetdirect configuration page your recently printed. Check these parameters:

- Mode of operation: ad hoc (peer-to-peer) or infrastructure (through a wireless access point)
- Network name (SSID)
- Encryption configuration
- Authentication configuration

(If the computer you are attempting to print from is not a wireless computer but is on a network that is connected to your wireless network, check that the printer's configuration matches the configuration of a *wireless* computer on the wireless network.)

Note: If the printer's wireless configuration is:

- Mode: ad hoc (peer-to-peer)
- Network name (SSID): hpsetup
- Encryption/authentication: disabled

then the print server is set to its factory default configuration and needs to be configured. In that case, exit this troubleshooting procedure and run the Wireless Setup Wizard and the Install Network Printer Wizard. (Start by inserting the HP Jetdirect CD into your computer. When the main screen comes up, select "Install"; then select "Wireless"; then select "No, the wireless settings have not been configured . . ."; then select "Step 1 -- Configure printer's wireless settings".) During the early part of the Wireless Setup Wizard, make sure that the computer's wireless configuration gets changed -- either automatically by the Wizard or manually by you -- to match the print server's configuration; if they don't match, you can't configure the print server.

Is the printer's wireless configuration the same as the computer's wireless configuration?

Yes

No

Reconfigure your printer.

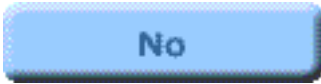
You need to reconfigure your wireless printer. Take the following steps:

1. **Reset the print server to its factory default configuration.** ([Click here for instructions.](#))
2. **Run the Wireless Setup Wizard and the Install Network Printer Wizard.** To start the Wireless Setup Wizard, insert the HP Jetdirect CD into your computer. When the main screen comes up, select "Install"; then select "Wireless"; then select "No, the wireless settings have not been configured . . ."; then select "Step 1 -- Configure printer's wireless settings".

After running the Wizards, is the Status light still green, blinking slowly?

If yes, the troubleshooting procedure has gone as far as it can go. You will need further assistance from HP technical support. Click on Yes for information about contacting HP technical support.

If the blink pattern of the Status light has changed, click on No to return to the start of the troubleshooting procedure and evaluate the state of the Status light.

A light blue, rounded rectangular button with a subtle gradient and a thin border. The word "Yes" is centered in a dark blue, sans-serif font.A light blue, rounded rectangular button with a subtle gradient and a thin border. The word "No" is centered in a dark blue, sans-serif font.

Check the signal strength.

Check the print server's signal strength. Look for the signal strength rating on the Jetdirect configuration page in the 802.11 Wireless section.

Is the signal strength 3 or greater?

If yes, the signal strength is adequate. Click Yes to continue.

If no, you will need to try to improve the signal strength. Click No to continue.

Yes

No

Adjust the position of the printer.

To try to improve the signal strength, move the printer closer to the wireless access point (if your network is operating in infrastructure mode) or to the wireless computer (if your network is operating in ad hoc or peer-to-peer mode).

Is the Status light still green, blinking slowly.

If yes, the signal strength does not appear to be the problem. Click Yes to continue.

If no, click on No to return to the start of the troubleshooting procedure and evaluate the new state of the Status light.

Yes

No

Hardware fault

The amber light indicates a hardware fault with the print server. Try this procedure:

- **Cycle power** by unplugging the print server from the printer and then plugging it back in again. Check to see whether the Status light came on green.

Did the Status light come on green (any blink pattern)?

If Yes, click on the Yes button to return to the start of the troubleshooting procedure and evaluate the current state of the Status light.

If No, your print server may be faulty. Fixing such a fault requires assistance from HP Jetdirect technical support; click on the No button for information on contacting HP.

Yes

No

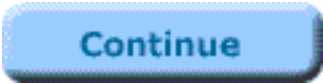
Processing configuration page

A green light that blinks quickly indicates that the print server is processing a configuration page.

- **Wait for the page to finish printing**, then check the print server's Status light again. Click on Continue to return to the start of the troubleshooting procedure to evaluate the state of the Status light.
- ***If the configuration page does not print***, cycle the printer's power by doing the following:
 - Switch off the printer.
 - Unplug the printer's power cord.
 - Plug the power cord back in again.
 - Switch on the printer.

(This procedure is recommended because many printers maintain power for fast warm-up even when the power switch is switched off. Unplugging the power cord ensures that power is removed from the printer.)

Then check the print server's Status light again. Click on Continue to return to the start of the troubleshooting procedure to evaluate the state of the Status light.

A blue, rounded rectangular button with a slight gradient and a shadow, containing the word "Continue" in a bold, black, sans-serif font.

Browse HP.

[General Information \(http://www.hp.com/support/net_printing\)](http://www.hp.com/support/net_printing)

(The central location on HP's web site for the HP Jetdirect print servers and similar products)

[Online Customer Forum \(http://www.hp.com/go/forums\)](http://www.hp.com/go/forums)

(The central location on HP's web site for the HP Jetdirect print servers and similar products)

[Customer Support \(http://www.hp.com/support/support_assistance\)](http://www.hp.com/support/support_assistance)

(Lists all of the support options offered by HP and contact information such as phone numbers and e-mail addresses)

Call HP.

Click on a region below to find the telephone number for HP Jetdirect technical support.

[South and East Asia](#)

[North America and Latin America](#)

[Europe, Middle East, Africa, India, Australia, and New Zealand](#)

Important!

重要!

Penting!

重要!

중요!

สำคัญ!

重要!

Thông báo quan trọng!



<http://www.hp.com>

English

In many locations, HP provides toll free telephone support during the warranty period. However, some of the phone numbers listed below may not be toll free.

Hong Kong +852 300 28 555
Malaysia 1800 805 405
Philippines +63 (2) 867 3551
Singapore +65 62725300
Australia +61 (3) 8877 8000
India 1600 11 2267, +91 11 6826035
New Zealand +64 (9) 3566640

ไทย

ในหลายประเทศ HP จะมีการสนับสนุนผ่านระบบโทรศัพท์แบบโทรฟรีในระหว่างระยะเวลาประกัน อย่างไรก็ตาม หมายเลขโทรศัพท์บางหมายเลขด้านล่างนี้อาจจะไม่ใช่นโยบายโทรศัพท์แบบโทรฟรี
+66 (2) 353-9000

简体中文

在保修期间，HP 为许多地区都提供免费电话支持。但是，下面列出的电话号码可能并不都是免费的。

北京 +86 10 6564 5959
+86 800 810 5959

繁體中文

在許多地區，HP 在保固期內提供免費電話支援。但是下面列出的某些電話號碼可能不是免費的。

台北 (886) (2) 2717-0055
香港 +852 300 28 555
新加坡 +65 6272 5300

Bahasa Indonesia

Di beberapa lokasi, HP menyediakan bantuan lewat telepon bebas pulsa selama masa garansi. Namun, nomor telepon di bawah ini mungkin tidak bebas pulsa.
+62 (21) 350 3408

Tiếng Việt

Tại nhiều nơi, HP cung cấp điện thoại miễn phí để trợ giúp khách hàng trong thời gian bảo kê. Tuy vậy vài số điện thoại như liệt kê dưới đây không phải là miễn phí.
+84 (8) 823 4530

日本語

ご購入後のテクニカルサポート、製品の使用方法については下記にお問い合わせ下さい。
0570-000-510 or 03-5344-7181
出張修理保証対象製品で、修理のご依頼は下記にお問い合わせ下さい。
0120-742-594 or 03-5977-7862

한국어

많은 지역에서 HP는 품질보증 기간동안 무료 전화지원을 제공합니다. 그러나 아래 기재된 전화번호 중 무료가 아닌 번호도 있을 수 있습니다.
+82 (2) 3270 0700

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printed in Singapore



MKTNG - 20032

Important!
Important !
Importante
Importante!



<http://www.hp.com>

English

In many locations, HP provides toll free telephone support during the warranty period. However, some of the phone numbers listed below may not be toll free.

US +1 (1) 208 323 2551

Canada +1 (1) 905 206 4663

Français

HP fournit dans de nombreux pays une assistance téléphonique gratuite pendant la durée de la garantie. Cependant, certains numéros de téléphone figurant ci-dessous ne sont pas gratuits.

Canada +1 (1) 905 206 4663

Español

En muchos lugares, HP proporciona asistencia telefónica gratuita durante el periodo de garantía. Sin embargo, es posible que algunos de los números que aparecen a continuación no sean gratuitos.

Ciudad de México +52 (5) 258 99 22

Fuera de Ciudad de México 01 800 472 6684

Argentina: Buenos Aires +54 (11) 4778 8380

Fuera de Buenos Aires 0810 555 5520

Chile 800 360 999

Português

Em muitos países, a HP oferece suporte gratuito por telefone durante o período de garantia. Contudo, alguns dos telefones a seguir podem cobrar a ligação.

Brasil: Grande São Paulo: + 55 (11) 3747 7799

Demais localidades: 0800 157751

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Hewlett-Packard Company



5971-3689

Important!
Important !
Wichtig!
Importante!
Importante
Важно!
Važno!
Důležitě!

Viktigt!
Belangrijk
Tähtis!
Tärkeää!
Σημαντικό!
Fontos!
Маңызды!



<http://www.hp.com>

English

In many locations, HP provides toll free telephone support during the warranty period. However, some of the phone numbers listed below may not be toll free.

U.K +44 (0) 207 512 52 02
Ireland +353 (0) 1 662 5525
India +91 (11) 682 6035
South Africa:
outside RSA: +27 11 258 9301
Inside RSA: 086 000 1030

Español

En muchos lugares, HP proporciona asistencia telefónica gratuita durante el periodo de garantía. Sin embargo, es posible que algunos de los números que aparecen a continuación no sean gratuitos.
+34 902 321 123

Nederlands

HP biedt in veel landen gratis telefonische ondersteuning gedurende de garantieperiode. Sommige van onderstaande telefoonnummers zijn wellicht niet gratis.
Nederlands +31 (0) 20 606 8751
België +32 (0) 2 626 8806

Eesti

Paljudes paikades on garantiiajal võimalik kasutada HP tugiteenust, helistades tasuta telefoninumbritel. Mõned allpool loetletud telefoninumbritest võivad siiski olla tasulised.
+372 (0)650 5263

Français

HP fournit dans de nombreux pays une assistance téléphonique gratuite pendant la durée de la garantie. Cependant, certains numéros de téléphone figurant ci-dessous ne sont pas gratuits.
France +33 (0) 1 43 62 34 34
Belgique +32 (0) 2 626 8807
Suisse +41 (0) 848 80 11 11

Български

На много места HP осигурява безплатна поддръжка по телефона по време на гаранционния период. Някои от изброените по-долу телефонни номера може и да не са безплатни.
+7 09 579 73520 или
+7 81 234 67997

Suomi

Voit käyttää HP:n maksutonta puhelintukipalvelua takuuaikana useilla alueilla. Alla olevaa numeroa käyttäen puhelu on paikallispuhelin hintainen.
+358 (0) 203 47 288

Deutsch

HP bietet während der Gewährleistungsfrist vielerorts gebührenfreien telefonischen Support an. Die nachfolgend aufgelisteten Rufnummern sind jedoch unter Umständen nicht gebührenfrei.
Deutschland:
+49 (0) 180 52 58 143 (0,12 EUR/Min.)
Österreich +43 (0) 810 00 6080
Schweiz +41 (0) 848 80 11 11
Zur weiteren Klärung oder um zusätzliche Information zu erhalten, können Sie Kontakt mit der Online-Kundenbetreuung von HP (<http://www.hp.com/cps-support/guide/psd/cscemea.html>) aufnehmen.

Hrvatski

Na mnogim lokacijama HP pruža besplatnu telefonsku podršku za vrijeme trajanja jamstva. Ipak, neki dolje prikazani telefonski brojevi ne moraju biti besplatni.
+36 1 382 1111

Ελληνικά

Σε πολλές χώρες η HP παρέχει τηλεφωνική υποστήριξη χωρίς χρέωση κλήσης κατά τη διάρκεια ισχύος της εγγύησης. Ωστόσο, για ορισμένους από τους αριθμούς τηλεφώνου που παρατίθενται παρακάτω, μπορεί να μην ισχύει η κλήση χωρίς χρέωση.
+30 1 9 952 4848

Italiano

In molti Paesi, HP fornisce un'assistenza telefonica gratuita durante il periodo di garanzia. Tuttavia, il numero di telefono riportato qui di seguito potrebbe essere a pagamento.
+39 (0)2 264 10350

Dansk

Mange steder tilbyder HP gratis telefonisk support i hele garantiperioden. Bemærk dog, at nogle af telefonnumrene nedenfor måske ikke er gratis.
+45 39 29 4099

Magyar

A HP számos helyen biztosít ingyenes telefonos tanácsadást a jótállási időszak alatt. Azonban előfordulhat, hogy az alábbi telefonszámok közül nem mindegyik hívható ingyenesen.
+36 1 382 1111

Қазақ

Көптеген аймақтарда HP көпiлдiктi мерзiм iшiнде телефон арқылы тегiн жәрдем ұсынады. Алайда төменде келтiрiлген телефон нөмiрлерiнiң кейбiреуi тегiн болмауы мүмкiн.
+7 09 579 73520

Important!
Svarīgi!
Svarbu!
Viktig!
Ważne!
Importante!
Important!

Внимание!
Dôležitě!
Pomembno!
Viktigt
Önemli!
Увага!



<http://www.hp.com>

English

In many locations, HP provides toll free telephone support during the warranty period. However, some of the phone numbers listed below may not be toll free.
Australia +61 (3) 8877 8000
New Zealand +64 (9) 356-6640
India +91 (11) 682 6035
South Africa:
outside RSA: +27 11 258 9301
Inside RSA: 086 000 1030

Românește

În multe regiuni, HP oferă asistență telefonică gratuită în perioada de garanție. Totuși, este posibil ca apelurile la unele numere de telefon listate mai jos să nu fie gratuite.
+40 (1) 315 44 42
01 315 4442

Русский

Во многих регионах HP предоставляет бесплатную техническую поддержку по телефону в течение гарантийного периода. Однако, поддержка по некоторым из перечисленных ниже телефонов может быть не бесплатной.
Москва +7 (095) 797 3520
Санкт-Петербург +7 (812) 346 7997

Latviešu

Daudzās vietās HP nodrošina bezmaksas tālruna atbalstu garantijas perioda laikā. Tomēr daži no zemāk minētajiem tālrunu numuriem, iespējams, nav bezmaksas.
+371 (8) 00 8012

Slovensky

V mnohých regiónoch poskytuje spoločnosť HP počas záruky bezplatnú telefonickú podporu. Avšak niektoré telefónne čísla, uvedené v zozname nižšie, nemusia byť bezplatné.
+420 261 307 310

Lietuviškai

Daugelyje vietų, garantijos galiojimo laikotarpiu HP teikia nemokamą paramą telefonu. Tačiau, skambučiai, skambinant kai kuriais telefonų numeriais, surašytiems žemiau, gali būti mokami.
+370 2 787 333

Slovenščina

V mnogih državah ponuja HP tudi brezplačne telefonske številke za podporo v času trajajnje garancije. Kljub temu, pa nekatere izmed spodaj naštetih števil morda niso brezplačne.
+36 1 382 1111

Norsk

Mange steder tilbyr HP gratis brukerstøtte via telefon i garantiperioden. Det kan imidlertid hende at noen av telefonnumrene nedenfor ikke er gratis.
+47 22 11 62 99

Svenska

HP tillhandahåller på många ställen telefonsupport via avgiftsfria nummer. Vissa av de telefonnummer som anges nedan är dock ej avgiftsfria.
+46 (0) 8 619 2170

Polski

W wielu krajach firma HP zapewnia bezpłatne telefoniczne usługi pomocy technicznej w ciągu pełnego okresu gwarancji. Jednakże nie wszystkie połączenia z wymienionymi numerami telefonów są bezpłatne.
+48 (22) 865 98 00

Türkçe

Birçok bölgede HP garanti süresi boyunca ücretsiz telefon desteği sağlamaktadır. Bununla birlikte aşağıdaki listede bulunan telefon numaralarından bir kısmı ücretli tabi olabilir.
+90 (216) 579 71 71

Português

Em muitos países, a HP oferece suporte gratuito por telefone durante o período de garantia. Contudo, alguns dos telefones a seguir podem cobrar a ligação.
Brasil: Grande São Paulo: + 55 (11) 3747 7799
Demais localidades: 0800 157751

Українська

У багатьох регіонах під час дії гарантійної угоди компанія HP надає послуги безкоштовної телефонної підтримки. Однак, за користування деякими телефонними номерами, наведеними нижче, може стягатися плата.
+7 (380 44) 490 3520

مهم

در بسیاری مناطق، HP در ضمن مدت ضمانت پشتیبانی رایگان تلفنی تامین میکند. در عین حال ممکن است برخی از شماره تلفن هائی که در ذیل قید شده اند رایگان نباشد.
۹۷۱ ۴۸۸۳-۸۴۵۴

فارسی

هام!

في العديد من الأماكن، توفر شركة HP خدمة الدعم الهاتفية المجانية خلال فترة الضمان. ومع ذلك، فقد تكون بعض أرقام الهاتف المذكورة أدناه أرقامًا غير مجانية.
المملكة العربية السعودية ٩٧١ ٤٨٨٣-٨٤٥٤

عربي

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Hewlett-Packard Company



5971-3691

Support and Service

HP Jetdirect Print Servers

- [Help-yourself troubleshooting](#)
 - Getting support:
 - [Telephone support](#)
 - [WWW: HP Web support pages \(including driver, software, and firmware image upgrades\)](#)
 - [HP forums](#)
 - [Getting warranty service](#)
-

Help-yourself troubleshooting

Refer to:

- the Troubleshooting section of the printed setup poster that came with the print server
 - the [Troubleshooting](#) topic of this User's Guide; this includes an interactive troubleshooting procedure for the print server
-

HP support by phone

Highly trained technicians at our HP technical support center are ready to take your call.

Note: Telephone fees are the responsibility of the caller. Rates may vary. Contact your local telephone company for current rates.

For the most recent HP support telephone numbers worldwide, visit http://www.hp.com/support/support_assistance for access to a list of regional

telephone numbers. In the USA, the HP support telephone number for HP Jetdirect products is: **208-323-2551**.

WWW: HP support online

Our support pages on the HP Web site www.hp.com/support/net_printing are a collection of information to help solve technical issues and answer your questions about your HP Jetdirect print server, 24 hours a day, 7 days a week.

Software, Driver, and Firmware Image Upgrades

Hewlett-Packard offers downloadable electronic upgrades for HP Jetdirect print servers with internal Flash memory. The electronic upgrades are available on the Web and various online services.

Current information about drivers, software versions, and HP Jetdirect firmware images are available from the following:

World Wide Web	Access HP's Customer Care Online at http://www.hp.com/support/net_printing
America Online	Receive drivers and upgrades by downloading them to your computer from the HP Forum.
HP Distribution Center	Order drivers and upgrades for HP printers by calling the HP Distribution Center at 805-257-5565 (USA only).
FTP Site	Download printer drivers and upgrades from HP's anonymous FTP site at ftp://ftp.hp.com/pub/networking/software

WWW: HP user forums

Go online, anytime, and you'll also find helpful user forums—a great source of ideas and suggestions for using your HP Jetdirect print server. You can access the user forum directly from <http://www.hp.com/go/forums>.

Warranty Service

Click here for information on [getting warranty service](#).

Specifications

HP J6044A Jetdirect 280m 802.11b internal wireless print server

- [Networking specs](#)
 - [Physical specs](#)
 - [Environmental specs](#)
 - [Electromagnetic specs](#)
 - [Safety statements](#)
 - [Regulatory statements](#)
-

Supported networking

Physical

- Supports wireless network communication according to the IEEE 802.11b standard.
- Connects to other network devices via:
 - ad hoc mode (peer-to-peer) direct wireless communication with other devices on the network
 - infrastructure mode communication with the network through a wireless access point
- Can connect to wired networks through a wireless access point/router.

Supported network operating systems / protocols

The HP Jetdirect 280m print server supports these operating systems and protocols:

- Microsoft Windows 98, ME (TCP/IP, IPX/SPX)
- Microsoft Windows 2000, NT 4.0, XP, XP 64-bit, and later (TCP/IP, IPX/SPX, DLC/LLC)
- Apple Macintosh OS 8.6 and later (EtherTalk)
- Novell NetWare v 3.2, 4.x, 5.x, 6.0 (IPX/SPX); NDS (IPX/SPX); NDPS/NEPS (TCP/IP, IPX/SPX)
- IBM OS/2 Warp v 3.0, 4.0 (TCP/IP)
- HP-UX 10.20, 11.x; Solaris (on SPARC systems) v2.5x, 2.6, 7, 8; SCO UNIX v86,

- 3.2, 4.2, 5.0; IBM AIX v3.2.5 and later; MPE-ix v5.5 (TCP/IP)
- Line Printer Daemon (lpd)

Supported advanced security protocols

The HP Jetdirect 280m print server supports these advanced security protocols:

- Management security: SNMP v3, SSL/TLS (HTTPS)
- Wireless network security: WEP encryption (40/64-bit and 128-bit)
- 802.1x authentication (LEAP, PEAP, EAP-MD5, EAP-TLS, EAP-TTLS) with RADIUS servers

Browsers supported by embedded Web server

Generally, the following browsers are supported by the embedded Web server on Windows, MacOS, UNIX, and LINUX systems:

- Microsoft Internet Explorer, version 5.0 or later
- Netscape Navigator, version 4.75 or later

Physical specifications

Interfaces

Port	Specification
Network	See network specifications above .
Printer	HP-LIO (requires printer with LIO port)

Physical dimensions

Width	71 mm (2.8 in)
Length	84 mm (3.3 in)
Height	25 mm (1.0 in)

Weight

Weight	68 g (2.4 oz)
--------	---------------

Environmental specifications

Operating temperature, recommended	10° C to 55° C (50° F to 131° F)
Storage temperature, recommended	-40° C to 70° C (-40° F to 158° F)
Operating humidity, recommended	15% to 95% at 40° C (104° F), noncondensing

Acoustic Noise: Not applicable

Electromagnetic specifications

Electromagnetic immunity

See the [Declaration of Conformity](#).

Electromagnetic emissions

- *USA:* FCC Title 47 CFR part 15 Class-B
- *Canada:* ICES-003 Class B
- *Europe:* CISPR-22/EN55022 Class B
- *Taiwan:* CNS 13438 Class B
- *Australia/New Zealand:* AS/NZS 3548
- *Korea:* Korean EMI Law, No. 1996-98 Class-B

For complete European standards compliance list, see the [Declaration of Conformity](#).

Safety statements

Product complies with:

- IEC 950: (1991)+A1, A2, A3, A4 / EN60950 (1992)+A1, A2, A3, A4, A11
-

Regulatory statements

USA: FCC Class B Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Update Notice

CAUTION

Based on Section 15.21 of the FCC rules, changes or modification to the operation of this product without the expressed approval by Hewlett-Packard Company may invalidate its authorized use.

Exposure to Radio Frequency Radiation

CAUTION

The radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device shall be used in such a manner that the potential for human contact during normal operation is minimized.

The product and any attached external antenna, if supported, shall be placed in such a manner to minimize the potential for human contact during normal operation. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

European Community

Declaration of Conformity

This Declaration of Conformity complies with ISO/IEC Guide 22 and EN45014. It identifies the product, manufacturer's name and address, and applicable specifications recognized in the European community.

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: Hewlett-Packard Company

Manufacturer's Address: 8000 Foothills Blvd.
Roseville, Ca. 95747-5677
U.S.A.

declares, that the product

Product Name: HP Jetdirect 280m
Model Number: J6044A
Regulatory Model: RSVLD-0102
Radio module Model: 5185-3843
Product Options: all

conforms to the following Product Specifications:

Safety: EN 60950:1992+A1+A2+A3+A4+A11

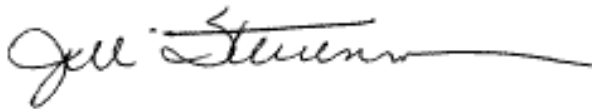
Health: EU: 1999/519/EC

EMC: EN 55022:1998 Class B
EN 55024:1998
EN 61000-3-2:1995+A14
EN 61000-3-3:1995
FCC Title 47 CFR, Part 15 Class B

Radio: EN 301 489-1,17:2000
EN 300 328-2:2000
Notified Body Number- 0682 CE 0682 
CETECOM ICT Services GmbH GmbH, Untertuerkheimer Str. 6-10 D-66117 Saarbruecken
FCC Title 47 CFR, Section 15.247

Supplementary Information:

The product herewith complies with the requirements of the R&TTE Directive 1999/5/EC Annex IV, and carries the CE mark accordingly.



Date: April 10, 2002

Jill Stevenson Product Regulations Manager

European contact for regulatory topics only: Hewlett-Packard GmbH, HQ-TRE, Herrenberger Straße 140, 71034 Böblingen, Germany

USA Contact: Hewlett-Packard Co. Corporate Product Regulations Manager, 3000 Hanover Street, Palo Alto, CA 94304. Phone (650) 857-1501

European Union Notice

Radio products with the CE 0682 or CE alert marking comply with the R&TTE Directive (1999/5/EC) issued by the Commission of the European Community.

Notice Low-power radio LAN product operating in 2.4-GHz band, for Home and Office environments. In some countries/regions, using the product may be subject to specific restrictions as listed for specific countries/regions below.

Belgium:

For private usage outside buildings across public grounds over less than 300m, no special registration with IBPT/BIPT is required. Registration to IBPT/BIPT is required for private usage outside buildings across public grounds over more than 300m. An IBPT/BIPT license is required for public usage outside building. For registration and license please contact IBPT/BIPT.

France:

Restricted frequency band: only channels 9 through 13 (2446.5 MHz through 2472 MHz) may be used in France.

Not allowed for outdoor use in public areas.

For outdoor use on private areas, individual authorization from ART is required.

Netherlands:

License required for outdoor installations. Check with reseller for procedure to follow.

Australia



This equipment complies with Australian EMC requirements.

Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications. The internal wireless radio complies with RSS 210 of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada. Le composant RF interne est conforme à la norme CNR-210 d'Industrie Canada.

Japan

ARIB STD-T66 Notice

機器に内蔵の無線 LAN をお使いのお客様へ。

この機器の使用周波数帯では、電子レンジ等の産業・科学・医療用機器のほか工場の製造ライン等で使用されている移動体識別用の構内無線局（免許を要する無線局）及び特定小電力無線局（免許を要しない無線局）が運用されています。

1 この機器を使用する前に、近くで移動体識別用の構内無線局及び特定小電力無線局が運用されていないことを確認して下さい。

2 万一、この機器から移動体識別用の構内無線局に対して電波干渉の事例が発生した場合には、速やかに使用周波数を変更するか又は電波の発射を停止した上、下記連絡先にご連絡頂き、混信回避のための処置等（例えば、パーティションの設置など）についてご相談して下さい。

3 その他、この機器から移動体識別用の特定小電力無線局に対して電波干渉の事例が発生した場合など何かお困りのことが起きたときは、次の連絡先へお問い合わせ下さい。

連絡先： 03-5344-7181

2.4DS4

China

Chinese Safety Statement

See [Chinese Safety Statement](#).

Korea

EMI Statement

사용자 안내문 (B 급 기기)

이 기기는 비업무용으로 전자파장해검정을 받은 기기로서, 주거지역에서는 물론 모든 지역에서 사용할 수 있습니다.

HP 网络产品使用安全手册

使用须知

欢迎使用惠普网络产品，为了您及仪器的安全，请您务必注意如下事项：

1. 仪器要和地线相接，要使用有正确接地插头的电源线，使用中国国家规定的220V电源。
2. 避免高温和尘土多的地方，否则易引起仪器内部部件的损坏。
3. 避免接近高温，避免接近直接热源，如直射太阳光、暖气等其它发热体。
4. 不要有异物或液体落入机内，以免部件短路。
5. 不要将磁体放置于仪器附近。

警告

为防止火灾或触电事故，请不要将该机放置于淋雨或潮湿处。

安装

安装辅助管理模块，请参看安装指南。

版权及免责声明

安装辅助管理模块，请参看安装指南。

保修及技术支持

如果您按照以上步骤操作时遇到了困难，或想了解其它产品性能，请按以下方式与我们联系。

如是硬件故障：

1. 与售出单位或当地维修机构联系。
2. 中国惠普有限公司维修中心地址：
北京市海淀区知春路49号希格玛大厦
联系电话：010-62623888 转 6101
邮政编码：100080

如是软件问题：

1. 惠普用户响应中心热线电话：010-65645959
2. 传真自动回复系统：010-65645735

Limited Global Warranty Statement and Service

HP J6044A Jetdirect 280m 802.11b internal wireless print server

- [Getting warranty service](#)
- [Your warranty period](#)
- [Limited Warranty Statement](#)

HEWLETT-PACKARD LIMITED GLOBAL WARRANTY STATEMENT

<u>HP Product</u>	<u>Duration of Warranty</u>
HP J6044A Jetdirect 280m 802.11b internal wireless print server	One (1) year

1. HP warrants to you, the end-user customer, that HP hardware, accessories and supplies will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products that prove to be defective. Replacement products may be either new or equivalent in performance to new.
2. HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for a period of NINETY (90) DAYS, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the NINETY (90) day period, HP will replace software that does not execute its programming instructions due to such defects.
3. HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the

product.

4. HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.
5. Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.
6. HP's limited warranty is valid in any country or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country for which it was never intended to function for legal or regulatory reasons.
7. TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. Some countries, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country to country, state to state, or province to province.
8. HP will be liable for damage to tangible property per incident up to the greater of \$300,000 or the actual amount paid for the product that is the subject of the claim, and for damages for bodily injury or death, to the extent that all such damages are determined by a court of competent jurisdiction to have been directly caused by a defective HP product.
9. TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT,

SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Local warranty statements

Australia and New Zealand

For consumer transactions in Australia and New Zealand: The warranty terms contained herein except to the extent lawfully permitted, do not exclude, restrict, or modify and are in addition to the mandatory statutory rights applicable to the sale of this product to you.

Argentina

Certificado de Garantía: vea el folleto de garantía que acompaña el paquete del producto.

México

Póliza de Garantía: vea el folleto de garantía que acompaña el paquete del producto.

Getting warranty service

For your records, please retain your original proof of purchase. Record the product number and serial number. Your product number is on a label on the bottom of the print server, for example, "J6044A". The serial number is on the same label.

Your authorized dealer

If you encounter difficulty, begin by contacting the person who sold you the HP Jetdirect print server to you. Your HP Authorized Dealer will be familiar with your requirements and can provide assistance.

HP Customer Care for warranty service

For warranty service on HP Jetdirect products, call the HP Customer Care Center. See [phone numbers](#) or visit http://www.hp.com/support/support_assistance and select “call hp”. The HP Customer Care representative will help you with troubleshooting, and advise you on warranty service. When calling, please have the following information ready:

- HP Jetdirect product you are calling about, for example, “J6044A”.
- Model number of the product, for example, “Jetdirect 280m”.
- Serial number of the product.
- Complete description of the problem.
- Proof of purchase of your product.
- Your shipping address.

Service billing (out of warranty)

When ordering a replacement unit for out-of-warranty service, you may be charged a repair cost. See your HP Authorized Dealer or your local HP Sales and Service Office representative. Or, you can call HP at (800) 227-8164 (USA only); prepare to supply shipping and billing addresses and payment information.

Service outside the USA

Customers outside the USA should contact their HP Authorized Dealer or HP Sales and Service Office to obtain information on prices, exchange unit availability, and instructions.

Some Handy Tools and Useful Techniques

You may find these tools and techniques useful for setting up and maintaining your print server.

- [Some Handy Tools](#)
 - [Installation software for the print server](#)
 - [Embedded web server](#)
- [Some Useful Techniques](#)
 - [Interpreting the status light](#)
 - [Printing a configuration page](#)
 - [Setting an IP address](#)
 - [Performing a cold reset \(reset to factory defaults\)](#)

Some Handy Tools

The installer

The HP Jetdirect 280m print server comes with installation software that makes it easy to configure and install a wireless printer on a network, using a Windows computer. The general steps in a wireless printer installation are:

1. **Install the print server in the printer.** In the case of the HP Jetdirect 280m wireless print server, this amounts to plugging the print server into the LIO slot on the back of the printer.
2. **Configure the print server to communicate with your network. The HP Jetdirect Wireless Setup Wizard on the HP Jetdirect CD leads you through these steps.** This involves setting up the wireless card on your computer to talk directly to the print server and to re-configure the print server's default settings so it can talk to your wireless network. (At the end of this step you will reset your computer's wireless settings back to their original settings so it can resume talking to your wireless network.)
3. **Configure your computer to print to the new wireless printer on your network. The HP Jetdirect Install Network Printer Wizard on the HP Jeditrect CD leads you through these steps.** You will need

to know the location of the driver for the wireless printer. (If you don't know where to find it, the Wizard may be able to help you find it on the Web.)

4. **Set up other computers as needed.** Now that the printer is set up on one computer on the network, you will run Install Network Printer Wizard software for each additional computer that will print to that printer.

For further details on installing your network printer, refer to the setup poster that came with your print server, or to the [Installation](#) section of this User's Guide.

The embedded web server

Each Jetdirect 280m print server contains an embedded web server. This acts like a small web site that allows you to configure various parameters of the print server, such as an IP or IPX address. In addition, a simple network scanning facility, called Web Scan, is available through the embedded web server if your print server is attached to a supported MFP (multifunction printer) or All-in-One device. Refer to the section in the [Jetdirect Administrator's Guide](#) on the Embedded Web Server for more information on Web Scan.

You use your standard web browser for access to the embedded web server's functions. The embedded web server generally supports Microsoft Internet Explorer 5.0 and later, and Netscape Navigator 4.75 and later.

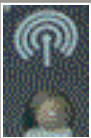
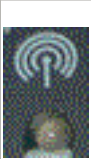
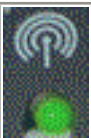
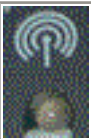
To use the print server's embedded web server, open your browser and enter the print server's IP address as the URL. (Most browsers will take a simple IP address; if yours doesn't, put an `http://` before the IP address.) If you don't know your print server's IP address, [print a configuration page](#) -- the IP address will be listed in the TCP/IP section.

The embedded web server's screens should be reasonably self-explanatory, and a little exploration will probably show you what you need to know. (For full details on the embedded web server, refer to the [Jetdirect Administrator's Guide](#).) All entries show the current values of the print server's parameters, and you can change those values by entering new ones (if your network administrator has allowed full access to them). Note that if you change the print server's IP address, you will lose the connection to the print server. You can reconnect by pointing your browser at the new IP address.

Some Useful Techniques

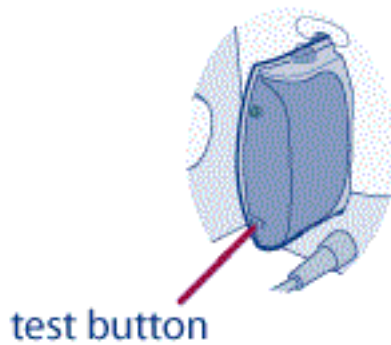
Interpreting the status light

The status light codes are:

	Status	Meaning
	Off	Not receiving power
	On, solid green	On and ready
	Green, blinking slowly	Receiving power, but not ready -- either self-test still in progress, or no network connection (the print server can not find a network with the same name and settings as it is configured for)
	Amber, blinking slowly	Fault -- call HP
	Green, blinking quickly	Processing configuration page
	Green, flickering intermittently	On and ready, showing network activity

Printing a configuration page

To print a configuration page, press the Test button on the print server.



This will print out the current value of the print server's configuration parameters on the attached printer. The section on [Interpreting the Configuration Page](#) will help you understand the meaning of the items on the configuration page.

Setting an IP address

The easiest way to set an IP address on the print server is to use the embedded web server. (You should consult with your network administrator before you make any changes to the print server's configuration, and notify other users of any change you will make.)

To set an IP address:

1. Open your browser and enter the print server's IP address as the URL. (If you don't know the IP address, you can find it by [printing a configuration page](#).)
2. Click on the Networking tab in the page that appears.
3. On the Networking page, make sure that TCP/IP is selected.
4. Set the IP Configuration Method to Manual.
5. Enter the new IP address in the IP Address box.

Note that you will lose your connection to the embedded web server when you change the IP address. To re-establish the connection, enter the new IP address in your browser's URL field.

Performing a cold reset (resetting to factory defaults)

Once you configure the HP print server, the configuration settings are retained in memory unless you manually reset them to factory defaults.

To reset the print server configuration to factory defaults, follow these steps:

1. Make sure that the printer's power is on.
2. Unplug the print server from the printer.
3. While holding down the Test button on the print server, plug the print server back into the printer; continue to hold down the Test button for about five seconds. Any user-configured settings will be erased.

HP Jetdirect Configuration Page

Introduction

The HP Jetdirect configuration page is an important tool for managing or troubleshooting HP Jetdirect print servers. This page provides identification information (such as the HP Jetdirect model, firmware version, and LAN hardware address), as well as status and configuration parameters of supported network protocols. Network statistics gathered by the print server are also provided.

The HP Jetdirect configuration page may be printed directly on the attached printer. The format of the Jetdirect configuration page depends on:

- the printer model
- the HP Jetdirect model and firmware version

For HP Enhanced I/O (EIO) printers with an HP Jetdirect EIO print server installed, a Jetdirect configuration page will automatically print after a printer configuration page is printed. For instructions, see your printer manuals.

Status Field Error Messages

The HP Jetdirect configuration page contains several “Status” fields for the print server and the supported protocols. One or more error codes and related error messages may be displayed in a Status field. For information on each error message, see [Table 9.12](#).

Configuration Page Format

A typical Jetdirect Configuration page is illustrated in [Figure 9.1](#). The Configuration page information provided will vary depending on the print server.

Figure 9.1 Typical Jetdirect Configuration Page

HP LaserJet 4050 series printers



EIO 2 - JetDirect Page

1

----- HP JetDirect Configuration -----
Status: I/O Card Ready

Model Number: J4169A
Hardware Address: 0001E63AA043
Firmware Version: GAC18LU
Port Config: 10BASE-T HALF
Auto Negotiation: On
Manufacturing ID: 212141142021216
Date Manufactured: 04/2001

----- Security Settings -----
Admin Password: Not Specified
SSL/TLS: Disabled
Cert Expires: Not Applicable
SNMP Versions: 1,2
SNMP Set Only Name: Not Specified
Access List: Not Specified

----- Network Statistics -----
Total Packets Received: 39
Unicast Packets Received: 4
Bad Packets Received: 0
Framing Errors Received: 0
Total Packets Transmitted: 38
Undeliverable Packets: 0
Transmit Collisions: 0
Transmit Late Collisions: 0

----- TCP/IP -----
Status: Ready

Host Name: NP13AA043
IP Address: 192.168.2.116
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.2.1
Config By: BOOTP
BOOTP Server: 192.168.2.2
TFTP Server: Not Specified
Config File: Not Specified
Domain Name: cellar.hp.com
DNS Server: 192.168.2.4
WINS Server: Not Specified
Syslog Server: Not Specified
Idle Timeout: 270 sec
Web JetAdmin URL: Not Specified

----- IPX/SPX -----
Status: Ready

Primary Frame Type: Auto Select

Network Frame Type: Rcvd
Unknown: EN_802.2 1D

----- Novell/NetWare -----
Status: 16
NOT CONFIGURED
Node Name: NP13AA043

NetWare Mode: Queue Server
NDS Tree Name:

NDS Context:

Attached Server:

SAP Interval: 60 sec

----- AppleTalk -----
Status: Initializing

Name:
Zone:
Type 1: HP LaserJet
Type 2: LaserWriter
Network Number: 65281
Node Number: 7

----- DLC/LLC -----
Status: Ready

The Jetdirect Configuration page is divided into sections, as identified in the following table. For each section, the detailed parameter descriptions and settings, including Error Messages, are provided in the remainder of this chapter.

Section Name	Description
HP Jetdirect Configuration or General Information	Identifies the HP Jetdirect print server and provides general status. For information on items in this section, see Table 9.1 . (For Error Messages, see Table 9.12 .)
USB Printer Information	(HP Jetdirect external print servers only) Provides current status of the USB connection to the printer. See Table 9.2 . (For Error Messages, see Table 9.12 .)
802.11b Wireless	(HP Jetdirect wireless print servers only) Provides current status of the wireless connection, and identifies the current wireless network parameters configured. See Table 9.3 . Error Messages are also included in the table.)
Security Settings	Provides the current status of configuration and access security parameters. See Table 9.4 .
Network Statistics	(HP Jetdirect wired print servers only) Provides the current values for various network parameters monitored by the HP Jetdirect print server. See Table 9.5 .
TCP/IP	Provides the current status and parameter values for the TCP/IP network protocols. See Table 9.6 . (For Error Messages, see Table 9.12 .)
IPX/SPX	Provides the current status and parameter values for the IPX/SPX network protocols. See Table 9.7 . (For Error Messages, see Table 9.12 .)
Novell/NetWare	Provides the current status and parameter values for a Novell NetWare network. See Table 9.8 . (For Error Messages, see Table 9.12 .)
AppleTalk	(Ethernet Only) Provides the current status and parameter values for the AppleTalk network protocols. See Table 9.9 . (For Error Messages, see Table 9.12 .)
DLC/LLC	Provides the current status and parameter values for the DLC/LLC network protocols. See Table 9.10 . (For Error Messages, see Table 9.12 .)
Token Ring Diagnostics	(Token Ring Only) Provides additional diagnostic status detected by Token Ring print servers. See Table 9.11 . (For Error Messages, see Table 9.12 .)

Configuration Page Messages

HP Jetdirect Configuration/General Information

Information in this section provides general HP Jetdirect print server configuration as described in [Table 9.1](#). For error messages, see [Table 9.12](#).

Table 9.1 HP Jetdirect Configuration (1 of 2)

Message	Description
STATUS:	Current state of the HP Jetdirect print server. I/O CARD READY: The HP Jetdirect print server has successfully connected to the network and is awaiting data. I/O CARD INITIALIZING: The HP Jetdirect print server is initializing the network protocols. For more information, see the status line for each protocol on the configuration page. I/O CARD NOT READY: There is a problem with the print server or its configuration. An Error Code and Message is displayed if the print server is not ready. For more information, see Table 9.12 .
MODEL NUMBER:	The model number of the HP Jetdirect print server (for example, J4169A)
HARDWARE ADDRESS:	The 12-digit hexadecimal network hardware (MAC) address of the HP Jetdirect print server installed in the printer or device. This address is assigned by the manufacturer.
FIRMWAREVERSION:	The firmware revision number of the HP Jetdirect print server currently installed in the printer. The format is X.NN.NN, where X is a letter that depends on the HP Jetdirect print server model.
PORT SELECT:	(Ethernet only) Specifies the port on the HP Jetdirect print server that has been detected for use: NONE: The print server is not connected to the network. RJ-45: The RJ-45 network port is connected.
DATA RATE:	Specifies the Token Ring data rate configured on the HP Jetdirect print server: 4 Mbps or 16 Mbps. The setting must match the data rate of the network. The data rate is configured through a switch on the print server. See your print server's hardware installation guide.
LAA	(Token Ring only) The Locally Administered Address (LAA) identifies the user-specified node address of a Token Ring print server. The default address is the print server's fixed LAN hardware address.

Table 9.1 HP Jetdirect Configuration (2 of 2)

Message	Description
PORT CONFIG:	Identifies the link configuration of the RJ-45 port on the HP Jetdirect 10/100Base-TX print server: 10BASE-T HALF: 10 Mbps, half-duplex 10BASE-T FULL: 10 Mbps, full-duplex 100TX HALF: 100Mbps, half-duplex 100TX-FULL: 100Mbps, full-duplex UNKNOWN: The print server is in an initialization state. DISCONNECTED: A network connection has not been detected. Check network cables.
AUTONEGOTIATION	Identifies whether IEEE 802.3u Autonegotiation on the HP Jetdirect 10/100TX port is enabled (ON) or disabled (OFF). ON (default): the HP Jetdirect print server will attempt to automatically configure itself onto the network at the proper speed (10 or 100 Mbps) and mode (half or full duplex). Autonegotiation is enabled after a cold reset. OFF: you must manually configure the speed and mode using the EIO menu from the printer's control panel. If Autonegotiation is off, the settings must match those of the network for proper operation.
MANUFACTURING ID:	The manufacturing identification code for use by HP online support personnel.
DATE MANUFACTURED:	Identifies the date of manufacture of the HP Jetdirect print server.
Total Packets Transmitted	(HP Jetdirect 802.11b wireless print servers) Total number of frames (packets) transmitted without error.
Total Packets Received	(HP Jetdirect 802.11b wireless print servers) Total number of frames (packets) received by the HP Jetdirect print server without error. This includes broadcast, multicast packets, and packets specifically addressed to the print server. This number does not include packets specifically addressed to other nodes.

USB Printer Information Settings

This section applies to HP Jetdirect external print servers with USB printer connections only. USB information on the HP Jetdirect configuration page is described in [Table 9.2](#). For non-HP devices, some information may not be available.

Table 9.2 USB Settings

Message	Description
Device Name	Name of the attached USB printing device, supplied by the manufacturer.
Manufacturer	Manufacturer of the attached printing device.
Serial Number	The Manufacturer's serial number for the attached printing device.
Communication Mode	Current USB communication mode: ● 1284.4: IEEE standard protocol, a mode for printers and multi-function (All-in-One) devices that allows multiple channels of simultaneous print, scan, and status communication. ● MLC: HP-proprietary protocol for Multiple Logical Channels, a mode for printers and multi-function (All-in-One) devices that allows multiple channels of simultaneous print, scan, and status communication. ● Bidirectional: Two-way printer communication, sending print data to the printing device and returning status information from the printing device. ● Unidirectional: One-way communication to the printing device. ● Device not found: The connection of a printing device has not been detected. Check device and cable. ● Device not supported: The device connected is not a printer (for example, a camera).

802.11b Wireless Settings

Wireless status, configuration parameters and error messages are listed in [Table 9.3](#).

Table 9.3 802.11b Wireless Settings (1 of 3)

Message	Description
Status	Current 802.11b wireless configuration status. Ready: A wireless connection to the network has been established. ● Infrastructure Mode: Associated with an Access Point and authenticated on the network. ● Ad Hoc Mode: Wireless communications established directly with other network devices (Access Points are not used in Ad Hoc Mode). Initializing: The print server is booting up, performing self-tests, and verifying internal communications. Scanning: The print server is scanning for the specified network. Status/Error Messages that may also be displayed are listed below. ● Infrastructure Mode: The print server is scanning on all channels for a network (Access Point) with the specified SSID. ● Ad Hoc Mode: The print server is scanning on all channels for a network with the specified SSID, or has created a workgroup to which no one has joined. Error: A wireless connection error has occurred that prevents association or authentication with an Access Point (Infrastructure Mode), or prevents a connection to an Ad Hoc network. Status/Error Messages that may also be displayed are listed below. Status/Error Messages ● NO SIGNAL DETECTED: (Infrastructure Mode only) The print server did not find an Access Point and did not detect a radio signal. ● SCANNING FOR SSID: The print server is scanning on all channels for devices on the specified SSID. Check your specified SSID, or check status of the Access Point (Infrastructure mode) or other wireless devices. The print server will continue to scan for the specified SSID.

Table 9.3 802.11b Wireless Settings (2 of 3)

Message	Description
	● AUTHENTICATION IN PROGRESS: Link-level authentication is in progress. In Infrastructure mode, server-based authentication may also be in progress. ● AUTHENTICATION FAILED: The Jetdirect print server could not access the network because of an authentication error. The error depends on the authentication method used. Verify the authentication method using the "Authentication Type" field. ● ENCRYPTION REQUIRED: Encryption is required on this network, but encryption has not been enabled on the Jetdirect print server. Verify encryption configuration.
Communication Mode	Specifies the wireless network topology configured on the Jetdirect print server: Infrastructure: Wireless connection to an Access Point (gateway, bridge, Base Station) that receives and forwards network traffic between all network nodes. Ad Hoc: A direct wireless peer-to-peer connection to all network nodes, without routing through an Access Point.
Network Name (SSID)	Identifies the name of the network (Service Set Identifier) to which the print server has connected.
Signal Strength (1-5)	The strength of the radio signal received by the print server. The following items may be displayed: 1, 2, 3, 4, 5: Indicates the signal strength. Level 1(Poor), Levels 2 and 3 (Marginal), Level 4 (Good), Level 5 (Excellent) No Signal: No radio signal detected on any channel. <blank>: No radio signal detected while the print server is scanning. Not Applicable: Signal strength is not applicable when the print server is in Ad Hoc mode.
Access Point / BSSID	Basic Service Set Identifier (BSSID) is a 6-byte number that distinguishes one wireless LAN (WLAN) from another, even if they have the same Network Name (SSID). Infrastructure Mode: The MAC address or name of the Access Point to which the Jetdirect wireless print server is connected. Ad Hoc Mode: A random number or name generated by the initiator of the Ad Hoc network.

Table 9.3 802.11b Wireless Settings (3 of 3)

Message	Description
Channel	Specifies the radio frequency channel that the print server sensed and configured for communication on the network. Because it was automatically sensed from the network, this channel may differ from the user-configured channel (which is only used for broadcasts if the specified network/SSID is not found). Channel number values 1 through 14 may be displayed. The allowed channels are country/region dependent.
Authentication Type	Identifies the authentication method configured on the Jetdirect print server. It must match the method used on the network to which the print server will connect. Open System: Positive validation of a device's identification is not required for network access. Virtually any device is allowed network access. There are no failure conditions for this authentication method. Shared Key: Each device on the network must be configured with a shared secret WEP key to gain access to the network. Authentication failures for the Jetdirect print server may arise if the installed key is faulty, or the wrong key is active (when multiple keys are configured and stored on the print server). EAP: (Infrastructure mode only) IEEE 802.1x Extensible Authentication Protocol (EAP) uses network authentication servers for client access. HP Jetdirect EAP support includes LEAP, PEAP, EAP-MD5, EAP-TLS, and EAP-TTLS authentication protocols. An authentication failure indicates that the EAP authentication server has rejected the print server's authentication requests.
Encryption Type	Specifies the level of encryption configured on the Jetdirect print server. 64-bit WEP: A user-specified static 40/64-bit WEP encryption key has been configured using 5 alphanumeric ASCII characters or 10 hexadecimal digits. 128-bit WEP: A user-specified static 104/128-bit WEP encryption key has been configured using 13 alphanumeric ASCII characters or 26 hexadecimal digits. Dynamic (WEP/TKIP): Dynamic encryption is being used with WEP, TKIP, or both. None: Encryption keys have not been configured.

Security Settings

Information in this section of the Jetdirect configuration page is described in [Table 9.4](#).

Table 9.4 Security Settings (1 of 2)

Message	Description
Admin Password:	Specifies whether an IP Administrator password has been configured on the print server. This password is shared by Telnet, the embedded web server, and HP Web JetAdmin to control access to print server configuration parameters. Up to 16 case-sensitive, alphanumeric characters can be used. Not Set: An Administrator password has not been set. Set: An Administrator password has been set. (The password may be cleared from the print server through a cold reset.)
Secure Web:	Specifies the use of encrypted communications between a browser and the HP Jetdirect embedded Web server. Optional (HTTPS/HTTP): Allows unencrypted communications using standard HTTP ports, as well as encrypted communications using HTTPS (secure HTTP). HTTPS Required: Only encrypted communications on HTTPS is allowed.
Cert Expires:	Specifies the expiration date of the digital certificate for SSL/TLS encrypted security. The date is in UTC format (for example, "2002-10-02 12:45 UTC"). Not Applicable: displayed if a digital certificate has not been installed.

Table 9.4 Security Settings (2 of 2)

Message	Description
SNMP Versions:	Specifies the SNMP versions enabled on the print server. Disabled: All SNMP versions are disabled on the print server. No SNMP access is allowed. 1;2: SNMP v.1 and SNMP v.2c are supported, and SNMP v.3 is disabled, or not supported. 1;2;3-na/np: SNMP v.1, v.2c, and v.3 are enabled. v.3 is enabled with the minimum security of no authentication ("na") and no privacy ("np"). 1;2;3-a/np: SNMP v.1, v.2c, and v.3 are enabled. v.3 is enabled with the minimum security of authentication enabled ("a") but no privacy ("np"). 1;2;3-a/p: SNMP v.1, v.2c, and v.3 are enabled. v.3 is enabled with the minimum security of authentication ("a") with privacy ("p") enabled. 3-na/np: SNMP v.1 and v.2c are disabled. SNMP v.3 is enabled with the minimum security of no authentication ("na") and no privacy ("np"). 3-a/np: SNMP v.1 and v.2c are disabled. SNMP v.3 is enabled with the minimum security of authentication enabled ("a") but no privacy ("np"). 3-a/p: SNMP v.1 and v.2c are disabled. SNMP v.3 is enabled with the minimum security of authentication ("a") with privacy ("p") enabled.
SNMP Set Cmty Name:	Specifies whether an SNMP set community name has been configured on the HP Jetdirect print server. An SNMP set community name is a password for 'write' access to SNMP control functions (SNMP SetRequests) on the HP Jetdirect print server. Not Specified: an SNMP set community name has not been set. Specified: a user-specified SNMP set community has been set.
Access List:	Identifies whether a host access control list is configured on the HP Jetdirect print server. A host access control list specifies the IP address of individual systems, or IP network of systems, that are allowed access to the print server and device. Specified: A host access list is configured on the HP Jetdirect print server. Not Specified: A host access list is not configured on the print server. All systems are allowed access.

Network Statistics

Information in this section of the Jetdirect configuration page is described in [Table 9.5](#).

Table 9.5 Network Statistics (1 of 2)

Message	Description
TOTAL PACKETS RECEIVED:	Total number of frames (packets) received by the HP Jetdirect print server without error. This includes broadcast, multicast packets, and packets specifically addressed to the print server. This number does not include packets specifically addressed to other nodes.
UNICAST PACKETS RECEIVED:	Number of frames specifically addressed to this HP Jetdirect print server. This does not include broadcasts or multicasts.
BAD PACKETS RECEIVED:	Total number of frames (packets) received with errors by the HP Jetdirect print server.
FRAMING ERRORS RECEIVED:	Maximum of CRC (Cyclic Redundancy Check) errors and framing errors. CRC errors are frames received with CRC errors. Framing errors are frames received with alignment errors. A large number of framing errors could indicate a cabling problem with your network.
TOTAL PACKETS TRANSMITTED:	Total number of frames (packets) transmitted without error.
UNSENDABLE PACKETS:	Total number of frames (packets) not successfully transmitted because of errors.
TRANSMIT COLLISIONS:	Number of frames not transmitted because of repeated collisions.
TRANSMIT LATE COLLISIONS:	Total number of frames not transmitted because a late collision occurred. Late collisions often occur when cable lengths exceed network specifications. A large number may indicate a cabling problem on the network.
LINE ERRORS RCVD:	Total number of Token Ring frames received by the HP Jetdirect print server with code violations or CRC (Cyclic Redundancy Check) errors. A large number may indicate faulty cabling on your network.
BURST ERRORS RCVD:	Number of times the HP Jetdirect Token Ring print server could detect no transitions for 5 half-bit times between the Start Delimiter (SD) and the End Delimiter (ED).

Table 9.5 Network Statistics (2 of 2)

Message	Description
FRAME COPIED RCVD:	Total number of Token Ring frames received with the frame copy error indicated in the Frame Status (FS) field.
BAD LENGTH RCVD:	The number of Token Ring frames received with frame length errors.
LOST FRAMES:	The number of Token Ring frames lost.
TOKEN ERRORS:	Total number of times a violation of the token-passing protocol has been detected.

TCP/IP Protocol Information

Information in this section of the Jetdirect configuration page is described in [Table 9.6](#). For error messages, see [Table 9.12](#).

Table 9.6 TCP/IP Configuration Information (1 of 3)

Message	Description
STATUS:	Current TCP status. READY: Indicates the HP Jetdirect print server is awaiting data over TCP/IP. DISABLED: Indicates that TCP/IP was manually disabled. INITIALIZING: Indicates that the print server is searching for the BOOTP server, or trying to get the configuration file through TFTP. An additional status message may also be displayed. An Error Code and Message is displayed if the print server is not ready. For more information, see Table 9.12.
HOST NAME:	The host name configured on the print server. It may be truncated. NOT SPECIFIED indicates that no host name was specified in a BOOTP response or TFTP configuration file. NP1xxxxxx: The default name is NP1xxxxxx, where xxxxxx represents the last six digits of the LAN hardware (MAC) address.
IP ADDRESS:	The Internet Protocol (IP) address assigned to the HP Jetdirect print server. This is a required entry for operation of the print server on a TCP/IP network. During initialization, a temporary value 0.0.0.0 is displayed. After two minutes, a default IP address 192.0.0.192 is assigned, which may not be a valid IP address for your network. NOT SPECIFIED indicates that an IP address is not assigned or the value is zero.
SUBNET MASK:	The IP subnet mask configured on the HP Jetdirect print server. During initialization, a temporary value 0.0.0.0 is displayed. Depending on configuration parameters, the print server may automatically assign a usable default value. NOT SPECIFIED indicates that a subnet mask is not configured.

Table 9.6 TCP/IP Configuration Information (2 of 3)

Message	Description
DEFAULT GATEWAY:	The IP address of the gateway used when sending packets off the local network. Only one default gateway may be configured. During initialization, a temporary value 0.0.0.0 is displayed. If not provided, the IP address of the Jetdirect print server is used. NOT SPECIFIED indicates that a default gateway is not configured.
CONFIG BY:	Identifies how the HP Jetdirect print server obtained its IP configuration: BOOTP: automatic configuration via a BOOTP server. BOOTP/TFTP: automatic configuration via a BOOTP server and TFTP configuration file. DHCP: automatic configuration via a DHCP server DHCP/TFTP: automatic configuration via a DHCP server and TFTP configuration file. RARP: automatic configuration via the Reverse Address Resolution Protocol. USER SPECIFIED: manual configuration via Telnet, the printer's control panel, HP Web JetAdmin, embedded web server, or other method. DEFAULT IP: the default IP address was assigned. This address may not be a valid address for your network. NOT CONFIGURED: The print server was not configured with IP parameters. Verify that TCP/IP is enabled, or check for error status.
BOOTP SERVER: or DHCP SERVER: or RARP SERVER:	Displayed if BOOTP, DHCP, or RARP is used for TCP/IP configuration. It specifies the IP address of the system that responds to the HP Jetdirect print server's request for automatic TCP/IP configuration over the network. NOT SPECIFIED indicates that the configuration server's IP address could not be determined or was set to zero in the response packet.
BOOTP/DHCP SERVER:	Displayed during initialization while the HP Jetdirect print server attempts to obtain its TCP/IP configuration from a BOOTP or DHCP server. The temporary address displayed is 0.0.0.0.
TFTP SERVER:	The IP address of the system where the TFTP configuration file is located. During initialization, the temporary address 0.0.0.0 is displayed. NOT SPECIFIED indicates that a TFTP server has not been not been set.

Table 9.6 TCP/IP Configuration Information (3 of 3)

Message	Description
CONFIG FILE:	The name of the HP Jetdirect configuration file. The file pathname may be truncated to fit on two lines. NOT SPECIFIED indicates that a file was not specified in the BOOTP reply from the host.
DOMAIN NAME:	The Domain Name System (DNS) name of the domain in which the HP Jetdirect print server resides (for example, support.company.com). It is not the fully qualified DNS name (for example, printer1.support.company.com) because the host printer name is not included. NOT SPECIFIED indicates that a domain name has not been configured on the print server.
DNS SERVER:	The IP address of the Domain Name System (DNS) server. NOT SPECIFIED indicates that a DNS server's IP address has not been configured on the print server.
WINS SERVER:	The IP address of the Windows Internet Name Service (WINS) server. NOT SPECIFIED indicates that a WINS server's IP address has not been configured on the print server.
SYSLOG SERVER:	The IP address of the syslog server configured on the print server. NOT SPECIFIED indicates that a syslog server has not been configured.
IDLE TIMEOUT:	The timeout value expressed in seconds after which the print server closes an idle TCP print data connection. Acceptable values are integers between 0 and 3600. A value of zero turns off the timeout mechanism. The default value is 270 seconds.
SLP:	Specifies whether the HP Jetdirect print server sends Service Location Protocol (SLP) packets used by system applications for automated installation. ENABLED: The print server sends SLP packets. DISABLED: The print server does not send SLP packets.
WEB JETADMIN URL:	If the HP Jetdirect print server is found on the network by HP Web JetAdmin, the URL of the host system used for HP Web JetAdmin services is displayed. The URL is limited to two lines and may be truncated. NOT SPECIFIED indicates that the URL of the Web JetAdmin host system could not be identified or is not configured.

IPX/SPX Protocol Information

Information in this section of the Jetdirect configuration page is described in [Table 9.7](#). For error messages, see [Table 9.12](#).

Table 9.7 IPX/SPX Configuration Information (1 of 2)

Message	Description
STATUS:	Indicates the current IPX/SPX protocol status. READY: Indicates the HP Jetdirect print server is awaiting data over IPX/SPX. DISABLED: Indicates that IPX/SPX was manually disabled. INITIALIZING: Indicates that the print server is registering the node address or name. An additional status message may also be displayed. An Error Code and Message is displayed if the print server is not ready. For more information, see Table 9.12.
PRIMARY FRAME TYPE:	Specifies the frame type selection on the Jetdirect print server. AUTO SELECT: The print server automatically senses and limits the frame type to the first one detected. EN_8023: Limits the frame type to IPX over IEEE 802.3 frames. All others will be counted and discarded. EN_II: Limits the frame type to IPX over Ethernet frames. All others will be counted and discarded. EN_8022: Limits the frame type to IPX over IEEE 802.2 with IEEE 802.3 frames. All others will be counted and discarded. EN_SNAP: Limits the frame type to IPX over SNAP with IEEE 802.3 frames. All others will be counted and discarded. TR_8022: Limits the frame type to IPX over IEEE 802.2 with IEEE 802.5 frames. All others will be counted and discarded. TR_SNAP: Limits the frame type to IPX over SNAP with IEEE 803.5 frames. All others will be counted and discarded.

Table 9.7 IPX/SPX Configuration Information (2 of 2)

Message	Description
NETWORK XXXXXX XXXXXX XXXXXX XXXXXX	The first column (Network) indicates the network number associated with a protocol frame type used for communication between a server and the HP Jetdirect print server. UNKNOWN indicates that the HP Jetdirect print server is still trying to determine which network number to use.
FRAME TYPE XXXXX XXXXX XXXXX XXXXX	The second column (Frame Type) identifies the frame type used with the associated network number: EN_8023, EN_8022, EN_II, EN_SNAP, TR_8022, TR_SNAP. Unless a specific frame type has been manually configured, the print server automatically determines the protocol frame type by listening to the network data being transferred over the network. DISABLED indicates that a specific frame type for that network has been manually configured.
RCVD XXXX XXXX XXXX XXXX	The third column (RCVD) indicates how many packets have been received for each frame type.

Novell NetWare Parameters

Information in this section of the Jetdirect configuration page is described in [Table 9.8](#). For error messages, see [Table 9.12](#).

Table 9.8 Novell NetWare Configuration Information (1 of 2)

Message	Description
STATUS:	Indicates the current Novell NetWare configuration status. READY: Indicates the HP Jetdirect print server is awaiting data. DISABLED: Indicates that IPX/SPX was manually disabled. INITIALIZING: Indicates that the print server is registering the node address or name. An additional status message may also be displayed. An Error Code and Message is displayed if the print server is not ready. For more information, see Table 9.12.
NODE NAME:	Queue Server Mode: The print server name. This name must match a valid print server on the appropriate NetWare file server. The default name is NPIXXXXXX, where XXXXXX is the last six digits of the LAN hardware (MAC) address. Remote Printer Mode: The name you gave the network printer when you configured the network printer. The default name is NPIXXXXXX.
NETWARE MODE:	The mode used by the HP Jetdirect print server. QUEUE SERVER indicates that the print server receives data directly from the queue. REMOTE PRINTER, with the printer number following it, indicates that the print server emulates a Novell NetWare remote printer. If the printer is not configured, this field displays QUEUE SERVER.
NDS TREE NAME:	Displays the name of the Novell Directory Services (NDS) tree for this printer. NDS is a database of objects on a NetWare network organized in a hierarchical tree structure. NOT SPECIFIED or blank: NDS is disabled.
NDS CONTEXT:	Displays the fully qualified NDS name where the HP Jetdirect print server object resides in the NDS tree. For example: CN=lj_pserver.OU=support.OU=mycity.OU=mycompany NOT SPECIFIED or blank: NDS is disabled.

Table 9.8 Novell NetWare Configuration Information (2 of 2)

Message	Description
ATTACHED SERVER:	The Attached Server field identifies the Jetdirect discovery method [NSQ] (Nearest Service Query) or [GSQ] (General Service Query) and the name of the proxy file server used to locate the configured bindery servers. NOT SPECIFIED or blank: A NetWare server has not been configured.
QUEUE POLL INTERVAL	(Job Poll Interval) Specifies the time interval (seconds) that the HP Jetdirect print server waits to check for print jobs in a print queue. The default is 2 seconds.
SAP INTERVAL:	Specifies the time interval (seconds) that the HP Jetdirect print server waits between Service Advertising Protocol (SAP) broadcasts on the network. The default is 60 seconds.
SERVER x:	Identifies a NetWare file server to which the HP Jetdirect print server is attached.

AppleTalk Protocol Information

Information in this section of the Jetdirect configuration page (Ethernet Only) is described in [Table 9.9](#). For error messages, see [Table 9.12](#).

Table 9.9 AppleTalk Configuration Information

Message	Description
STATUS:	Indicates the current AppleTalk configuration status. READY: Indicates the HP Jetdirect print server is awaiting data. DISABLED: Indicates that AppleTalk was manually disabled. INITIALIZING: Indicates that the print server is registering the node address or name. An additional status message may also be displayed. An Error Code and Message is displayed if the print server is not ready. For more information, see Table 9.12 .
NAME:	The name of the printer on the AppleTalk network. A number after the name indicates that there are multiple devices with this name, and this is the Nth instance of the name.
ZONE:	The name of the AppleTalk network zone on which the printer is located.
TYPE:	The type of the printer being advertised on the network. Two types can be displayed.
NETWORK NUMBER: NODE NUMBER:	NETWORK NUMBER: identifies the AppleTalk Network Number on which the HP Jetdirect print server is currently operating. NODE NUMBER: identifies the AppleTalk Node Number that the print server chose for itself as part of its initialization sequence. Note: The AppleTalk phase 2 (P2) parameter is preconfigured on the HP Jetdirect print server.

DLC/LLC Protocol Information

Information in this section of the Jetdirect configuration page is described in [Table 9.10](#).

Table 9.10 DLC/LLC Configuration Information

Message	Description
STATUS:	Indicates the current DLC/LLC protocol status. READY: Indicates the HP Jetdirect print server is awaiting data. DISABLED: Indicates that DLC/LLC was manually disabled. INITIALIZING: Indicates that the print server is registering the node address or name. An additional status message may also be displayed. An Error Code and Message is displayed if the print server is not ready. For more information, see Table 9.12.

Token Ring Diagnostics

Information in this section of the Jetdirect configuration page (Token Ring Only) is described in [Table 9.11.](#)

Table 9.11 Token Ring Diagnostic Information (1 of 2)

Message	Description
Status:	Identifies a status condition. Ready: Indicates successful access to the Token Ring network. Error: Indicates an error condition. See the the error codes and ring status messages for more information.
Code:	The following Open command error codes may be detected: Function Failure: The HP Jetdirect print server is unable to transmit to itself while wrapped through its lobe at the Token Ring wiring concentrator. This message may also indicate that data frames were received before physical insertion. Signal Loss: Indicates one of the following: ● The HP Jetdirect print server has detected a loss of signal on the ring. Check the cable from the HP Jetdirect print server to the network and check the wiring concentrator. ● A signal loss condition has been detected at the HP Jetdirect print server receiver input during the open process (either when wrapped or inserted onto the ring). Timeout: The HP Jetdirect print server fails to logically insert onto the ring before the insertion timer expires. Each phase of the insertion process must complete before expiration of the 18-second insertion timer. Ring Failure: The HP Jetdirect print server times out when attempting a ring purge after becoming the active monitor; that is, the HP Jetdirect print server is unable to receive its own ring purge data frames. Ring Beaconing: The HP Jetdirect print server receives a beacon data frame after physically inserting into the ring. This indicates a break in the ring. Dup Node Address: The HP Jetdirect print server found another station on the ring that already has the address which the HP Jetdirect print server wishes to use. Make sure that all addresses are unique.

Table 9.11 Token Ring Diagnostic Information (2 of 2)

Message	Description
	Request Param: The HP Jetdirect print server determines that a Ring Parameter Server (RPS) is present on the ring, but does not respond to a request initialization data frame. Remove Received: The HP Jetdirect print server has received a Remove Adapter data frame during the Token Ring insertion process, or has received a remove ring station data frame request, and has removed itself from the ring.
Ring Status:	The following Ring Status may be detected: Ring Recovery: The HP Jetdirect print server has received claim-token data frames on the ring. The HP Jetdirect print server may be transmitting the claim-token frames. Single Station: The HP Jetdirect print server has sensed that it is the only station on the ring. Remove Received: The HP Jetdirect print server has received a Remove Adapter data frame during the Token Ring insertion process, or has received a remove ring station data frame request, and has removed itself from the ring. Auto-Removal Error: The HP Jetdirect print server detected an internal hardware error following the Token Ring beacon auto-removal process and has removed itself from the ring. Lobe Wire Fault: The HP Jetdirect print server has detected an open or short circuit in the cable between the HP Jetdirect print server and the Token Ring wiring concentrator. Verify that this cable is functional and replace it if necessary. Transmit Beacon: The HP Jetdirect print server is transmitting beacon frames to the ring. Hard Error: The HP Jetdirect print server is transmitting or receiving beacon frames to or from the ring. Signal Loss: Indicates one of the following: ● The HP Jetdirect print server has detected a loss of signal on the ring. Check the cable from the HP Jetdirect print server to the network and check the wiring concentrator. ● A signal loss condition has been detected at the HP Jetdirect print server receiver input during the open process (either when wrapped or inserted onto the ring).

Error Messages

Error codes and messages that may appear in the Status sections of the Jetdirect configuration page are described in [Table 9.12](#). +

Table 9.12 Error Messages (1 of 10)

Error Code and Message	Description
02 LAN ERROR - INTERNAL LOOPBACK	During self-test, the HP Jetdirect print server detected an internal loopback test error. The print server may be faulty. If the error persists, replace the HP Jetdirect print server.
03 LAN ERROR - EXTERNAL LOOPBACK	The HP Jetdirect print server is incorrectly connected to your network or is defective. Make sure your HP Jetdirect print server is correctly attached to your network. In addition, check the cabling and connectors.
07 LAN ERROR - CONTROLLER CHIP	Check the network connections. If the connections are intact, run the power-on self-test: turn the printer off, then on again. If the error persists, replace the HP Jetdirect print server.
08 LAN ERROR - INFINITE DEFERRAL	There is a network congestion problem. Note: If the print server is not connected to the network, this error cannot occur.
09 LAN ERROR - BABBLE	Check the network connections. If the connections are intact, run the power-on self-test: turn the printer off, then on again. If the error persists, replace the HP Jetdirect print server. For replacement instructions, see the hardware installation guide for your print server.
0A LAN ERROR - NO SQE	Check the network connections. If the connections are intact, run the power-on self-test: turn the printer off, then on again. If the error persists, replace the HP Jetdirect print server.
0C LAN ERROR - RECEIVER OFF	There may be a problem with your network cabling or the HP Jetdirect print server. Check the cabling and connectors on your Ethernet network. If you cannot find a problem with your network cabling, run the power-on self-test: turn the printer off, then on again. If the error persists after the printer is turned on again, there is a problem with the HP Jetdirect print server.
0D LAN ERROR - TRANSMITTER OFF	There may be a problem with your network cabling or the HP Jetdirect print server. Check the cabling and connectors on your Ethernet network. If you cannot find a problem with your network cabling, run the power-on self-test: turn the printer off, then on again. If the error persists, there is a problem with the HP Jetdirect print server.

Table 9.12 Error Messages (2 of 10)

Error Code and Message	Description
0E LAN ERROR - LOSS OF CARRIER	Check the network connections. If the connections are intact, run the power-on self-test: turn the printer off, then on again. If the error persists, replace the HP Jetdirect print server.
10 LAN ERROR - UNDERFLOW	(Ethernet) There may be a problem with your network cabling or the HP Jetdirect print server. Check the cabling and connectors on your network. If you cannot find a problem with your network cabling, run the power-on self-test: turn the printer off, then on again. If the error persists, there is a problem with the HP Jetdirect print server.
10 LAN ERROR-OPEN	(Token Ring) The HP Jetdirect print server could not insert into the ring and join the network. Check the data rate switch on the HP Jetdirect print server to make sure it is set correctly. For information on setting the data rate switch, see the HP Jetdirect internal print server hardware installation guides. In addition, check the cabling, external transceiver, wiring concentrator, and taps.
11 LAN ERROR - RETRY FAULTS	There is a problem with your network cabling or external network configuration. Verify operation of the hub or switch port.
12 LAN ERROR - NO LINKBEAT	With a 10/100 Base-TX port connected, this message is displayed if Link Beat is not sensed. Check the network cable, and verify that the concentrator/hub is providing Link Beat.
13 NETWORK RECONFIG - MUST REBOOT	Reset or power cycle the HP Jetdirect print server to enable new configuration values.
14 DISCONNECTED	The Novell NetWare protocol is disconnected. Check the server and the print server.
15 CONFIGURATION ERROR	(Ethernet) The configuration information for the NetWare functions is not stored correctly on the HP Jetdirect print server. Use the installation software, embedded web server, or other tools to reconfigure the print server. If this error persists, there may be a problem with the HP Jetdirect print server.
15 LAN ERROR - WIRE FAULT	(Token Ring) The HP Jetdirect print server has detected an open or short circuit in the cable between the HP Jetdirect print server and the Token Ring wiring concentrator. Verify that this cable is functional and replace it if necessary.

Table 9.12 Error Messages (3 of 10)

Error Code and Message	Description
16 NOT CONFIGURED	(Ethernet) The HP Jetdirect print server has not been configured for NetWare. Use the installation software, embedded web server, or other tools to configure the print server for NetWare networks.
16 LAN ERROR - AUTO REMOVAL	(Token Ring) The HP Jetdirect print server detected an internal hardware error following the Token Ring beacon auto-removal process and has removed itself from the ring.
17 UNABLE TO FIND SERVER	(Ethernet) The HP Jetdirect print server was unable to find the NetWare print server (Remote Printer mode) or file server (Queue Server mode). (There was no response to service queries for advertising print servers or file servers that matched the configured print server or file server name.) Make sure that the print server or file server is running and that the print server or file server name configured on the HP Jetdirect print server matches the actual name used by the print server or file server. Also make sure that all cables and routers are functioning correctly.
17 LAN ERROR - REMOVE RECEIVE	(Token Ring) The HP Jetdirect print server has received a Remove Adapter data frame during the Token Ring insertion process, or has received a remove ring station data frame request, and has removed itself from the ring.
18 PASSWORD ERROR	The HP Jetdirect print server detected that the password for the NetWare print server object is wrong. Use a NetWare utility (such as PCONSOLE) to erase the password for the print server object. When the HP Jetdirect print server logs on again, it sets a new password. Note: When multiple file servers are configured, the error is only displayed on the configuration page if none of the file servers are connected.
19 NO QUEUE ASSIGNED	The HP Jetdirect print server detected that the print server object has not been assigned any queues to service. Assign queues to the print server object using printer installation or NetWare utilities. Note: When multiple file servers are configured, the error is only displayed on the configuration page if none of the file servers were successfully connected.
1A PRINTER NUMBER NOT DEFINED	A NetWare printer number for this printer has not been configured. Assign a valid printer number to the HP Jetdirect print server. Use a NetWare utility (such as PCONSOLE), the Jetdirect embedded web server, or other tool to assign a printer number.

Table 9.12 Error Messages (4 of 10)

Error Code and Message	Description
1B PRINTER NUMBER IN USE	The NetWare printer number assigned to the printer is already in use by another printer. Assign an unused printer number. This may also occur when a printer is power cycled, in which case the error goes away after the print server times out and detects the lost connection.
1C PRINT SERVER NOT DEFINED	The file server does not have a print server object that corresponds to the specified NetWare node name. Use printer installation software, a NetWare utility (such as PCONSOLE), or other tool to create the print server object. When the HP Jetdirect print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers made the connection.
1D UNABLE TO CONNECT TO SERVER	Remote Printer mode error: The HP Jetdirect print server was unable to establish an SPX connection with the NetWare print server. Make sure that the NetWare print server is running and that all cables and routers are functioning correctly.
1E FAIL RESERVING PRINTER NUM	The SPX connection to the print server was lost when the HP Jetdirect print server attempted to reserve the printer number. This indicates a possible network problem, or a problem with the print server. Make sure all cables and routers are functioning correctly. Try restarting the print server.
1F ERR NEGOTIATING BUFFER SIZE	A failure was detected when selecting the buffer size to be used when reading print data from the file server. This may indicate a network problem. When the HP Jetdirect print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers was successfully connected.
20 UNABLE TO LOGIN	A failure was detected when the HP Jetdirect print server tried to log onto the file server. This could be caused by the print server object not existing on the file server, or by a security check that prevents the print server from logging in. Make sure the file server name and print server object name are correct. Use PCONSOLE to erase the password for the print server object. Create a new print server object. When the HP Jetdirect print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers made the connection.

Table 9.12 Error Messages (5 of 10)

Error Code and Message	Description
21 UNABLE TO SET PASSWORD	A failure was detected when the HP Jetdirect print server tried to set the password for the print server object. (Whenever the HP Jetdirect print server is able to log in without a password, it sets the password automatically.) This indicates a networking or security problem. Create a new print server object. When multiple file servers are configured, the error is only displayed on the configuration page if none of the file servers were successfully connected.
22 UNABLE TO CONNECT TO SERVER	Queue Server mode error: The HP Jetdirect print server could not establish an NCP connection to the file server. Make sure that the correct file servers are connected. When multiple file servers are configured, the error is only displayed on the configuration page if none of the file servers were successfully connected.
23 UNABLE TO ATTACH TO QUEUE	A failure was detected when the HP Jetdirect print server tried to attach to one of the queues assigned to the print server object. This may be because no servers are allowed to attach to this queue. There may also be a networking or security problem. Use PCONSOLE to make sure that servers are allowed to attach to the queue, to delete the print server object from the list of queue servers if you want the HP Jetdirect print server to service other queues, or to delete the queue and create a new one (the print server object must be added to the list of queue servers). When the HP Jetdirect print server is configured for multiple file servers, the error is only displayed on the configuration page if none of the file servers made the connection.
24 PSERVER CLOSED CONNECTION	The NetWare print server requested a termination of the connection with the HP Jetdirect print server. No error exists or is indicated. Make sure the NetWare print server is running, and restart it if necessary.
25 DISCONNECTING - SPX TIMEOUT	The SPX connection to the print server was lost after the connection had been made. This indicates a possible network problem, or a problem with the print server. Make sure all cables and routers are functioning correctly. Try restarting the print server.
26 UNKNOWN NCP RETURN CODE	The HP Jetdirect print server encountered an unexpected fatal error after it had successfully connected to the file server. A wide variety of failures could produce this error message, including a downed file server or a network router failure.

Table 9.12 Error Messages (6 of 10)

Error Code and Message	Description
27 UNEXPECTED PSERVER DATA RCVD	The print server sent some data when the HP Jetdirect print server had not given its permission to do so. This indicates a possible print server problem, possibly a software problem.
28 OUT OF BUFFERS	The HP Jetdirect print server was unable to allocate a buffer from its internal memory. This indicates all buffers are busy due possibly to heavy broadcast traffic or large amounts of network traffic directed to the print server.
29 UNABLE TO SENSE NET NUMBER	The HP Jetdirect print server has been trying for over 3 minutes to determine the NetWare protocol used on the network. Make sure that any file servers and routers are operating correctly. Make sure that the settings for NetWare frame type and source routing are correct.
2A NDS ERR: EXCEEDS MAX SERVERS	More queues were assigned than the HP Jetdirect print server can handle. Remove one or more print queues from the list to be serviced by Queue Server Mode.
2B NDS ERR: UNABLE TO LOGIN	Unable to log onto the NetWare directory tree. Make sure that the print server object is defined in the directory at the correct context. Clear the print server password using NWADMIN or similar NetWare tool.
2C NDS AUTHENTICATION ERROR	Unable to log onto the NetWare directory tree. Make sure that the print server object is defined in the directory at the correct context.
2D NDS ERR: CHANGE PSSWRD FAILED	Cannot modify the print server password to the value expected by the HP Jetdirect print server.
2E NDS SERVER PUBLIC KEY ERROR	Print Server Object Name mismatch. Unable to read the file server's public key. Verify object names, or contact the NDS administrator.
2F NDS ERR: SRVR NAME UNRESOLVD	The file server on the network cannot be located. The server may not be running at this time or a communications problem may exist.
30 NDS PRINT SERVER NAME ERROR	The HP Jetdirect print server object cannot be located in the specified NDS context.
31 NDS PS PRINTER LIST ERROR	Cannot locate a list of printers objects that should be assigned to the print server object.
32 NDS PRINTER OBJ NOTIFY ERR	The list of notification objects assigned to the printer object cannot be located.
33 NDS PRINT OBJ QUEUE LIST ERR	The list of print queues assigned to the printer objects cannot be located.

Table 9.12 Error Messages (7 of 10)

Error Code and Message	Description
34 NDS ERR: UNRESOLVD PRNTR OBJ	The printer object cannot be located in the NDS directory.
35 NDS ERR: INVALID SRVR VERS	The current version of the NetWare file server is not supported.
36 NDS ERR: NO PRINTER OBJECTS	No printer objects are assigned to the print server object configured to this HP Jetdirect print server.
37 NDS ERR: MAX PRINT OBJECTS	Too many printer objects are assigned to the print server object. Using NetWare utilities (such as NWADMIN), reduce the number of printer objects assigned to the print server.
38 NDS ERR: NO QUEUE OBJECTS	No print queue objects are assigned to the printer objects located in the NDS directory.
39 NDS ERR: MAX QUEUE OBJECTS	Too many print queue objects are assigned to the printer. Reduce the number of queues assigned.
3A NDS ERR: UNABLE TO FIND TREE	The NDS tree cannot be located. The message may occur when the file server is not running or when a network communications problem exists.
3B NDS CONNECTION STATE ERROR	The HP Jetdirect print server cannot change the NDS connection state. Check licenses on the spooling server.
3C NDS ERR: UNRESOLVED QUEUE	The print queue object cannot be located in the specified NDS context.
3D NDS ERR: CANNOT READ Q HOST	Cannot locate the file server on the network. The server may not be running at this time or a communications problem may exist.
3E NDS PRNT SRVR PUBLIC KEY ERR	Print Server Object Name mismatch. Unable to read the print server's public key. Verify object names. Verify that the object key assigned to the HP Jetdirect print server is a print server object and not a printer or other object.
3F UNABLE TO GET NDS SRVR ADDR	The NDS server address cannot be located or accessed.
40 ARP DUPLICATE IP ADDRESS	The ARP layer has detected another node on the network using the same IP address as the HP Jetdirect print server. Extended error information below this message shows the hardware address of the other node.
41 NOVDRAM ERROR	The HP Jetdirect print server cannot read the contents of its NOVDRAM.

Table 9.12 Error Messages (8 of 10)

Error Code and Message	Description
42 INVALID IP ADDRESS	The IP address specified for the HP Jetdirect print server (through BOOTP) is an invalid IP address for specifying a single node. Check your Bootptab file for proper entries.
43 INVALID SUBNET MASK	The IP subnet mask specified for the HP Jetdirect print server (through BOOTP) is an invalid subnet mask. Check your Bootptab file for proper entries.
44 INVALID GATEWAY ADDRESS	The default gateway IP address specified for the HP Jetdirect print server (through BOOTP) is an invalid IP address for specifying a single node. Check your Bootptab file for proper entries.
45 INVALID SYSLOG ADDRESS	The syslog server IP address specified for the HP Jetdirect print server (through BOOTP) is an invalid IP address for specifying a single node. Check your Bootptab file for proper entries.
46 INVALID SERVER ADDRESS	The TFTP server IP address specified for the HP Jetdirect print server (through BOOTP) is an invalid IP address for specifying a single node. Check your Bootptab file for proper entries.
47 INVALID TRAP DEST ADDRESS	One of the SNMP trap (Trap PDU) destination IP addresses specified for the HP Jetdirect print server (through TFTP) is an invalid IP address for specifying a single node. Check your TFTP configuration file.
48 CF ERR - FILE INCOMPLETE	The TFTP configuration file contained an incomplete last line that did not end in a newline character.
49 CF ERR - LINE TOO LONG	A line being processed in the TFTP configuration file was longer than the HP Jetdirect print server could accept.
4A CF ERR - UNKNOWN KEYWORD	A TFTP configuration file line contained an unknown keyword.
4B CF ERR - MISSING PARAMETER	A line in the TFTP configuration file was missing a required parameter.
4C CF ERR - INVALID PARAMETER	A line in the TFTP configuration file contained an invalid value for one of the parameters on that line.
4D CF ERR - ACCESS LIST EXCEEDED	The TFTP configuration file specified too many access list entries using the "allow:" keyword.
4E CF ERR - TRAP LIST EXCEEDED	The TFTP configuration file specified too many trap destination list entries using the "trap-destination:" keyword.
4F TFTP REMOTE ERROR	The TFTP transfer of the configuration file from the host to the HP Jetdirect print server failed with the remote host sending a TFTP ERROR packet to the print server.

Table 9.12 Error Messages (9 of 10)

Error Code and Message	Description
50 TFTP LOCAL ERROR	The TFTP transfer of the configuration file from the host to the HP Jetdirect print server failed with the local print server encountering some form of inactivity timeout, or excessive retransmissions situation.
51 TFTP RETRIES EXCEEDED	The overall retrying of the TFTP transfer of the configuration file from the host to the HP Jetdirect print server has exceeded a retry limit.
52 BAD BOOTP/DHCP REPLY	An error was detected in the BOOTP or DHCP reply that the HP Jetdirect print server received. The reply either had insufficient data in the UDP datagram to contain the minimum BOOTP/DHCP header of 236 bytes, had an operation field that was not BOOTPREPLY(0X02), had a header field that did not match the print servers hardware address, or had a UDP source port that was not the BOOTP/DHCP server port (67/udp).
53 BAD BOOTP TAG SIZE	The tag size in a vendor-specific field in the BOOTP reply is either 0, or greater than the remaining number of unprocessed bytes in the vendor-specified area.
54 BOOTP/RARP IN PROGRESS	The HP Jetdirect print server is currently in the process of obtaining its basic IP configuration information through BOOTP/RARP.
55 BOOTP/DHCP IN PROGRESS	The HP Jetdirect print server is currently in the process of obtaining its basic IP configuration information through BOOTP/DHCP, and has not detected any errors.
56 DHCP NAK	The HP Jetdirect print server received a negative acknowledgement message from the DHCP server in response to a configuration request.
57 UNABLE TO CONNECT DHCP SVR	The HP Jetdirect print server had received IP parameters from a DHCP server, but communication with the DHCP server has been lost. Check status of the DHCP server. If an infinite lease was assigned, the print server will use the IP address of the most recent DHCP server used, but operation may be degraded until a DHCP server responds.
58 POSTSCRIPT MODE NOT SELECTED	The printer does not support AppleTalk or AppleTalk extensions.
59 INCOMPLETE F/W - MUST DOWNLOAD	Firmware download message. Currently downloading firmware to the HP Jetdirect print server, or the download did not complete properly.
5A TURN PRINTER OFF / ON	Firmware download message. Download of firmware is complete. Power cycle the HP Jetdirect print server.

Table 9.12 Error Messages (10 of 10)

Error Code and Message	Description
83 DISCONNECTING FROM SERVER	The server has been shut down because of a configuration change or reset request. This message automatically clears after a few seconds, unless the printer is offline, is in an error state, or is servicing another I/O port or another network protocol.
F1 TRYING TO CONNECT TO SERVER	The HP Jetdirect print server is trying to connect to the NetWare server(s). This is a normal message. Wait until either the connection is established or another status message appears.
xx ERR TCP INFO TIMERS ADJUSTED	The print server detected a DHCP lease error due to one of the following conditions: ● Renew time is less than 30 seconds. ● Rebind time is less than 52 seconds. ● Rebind time is less than, or equal to, the Renew time. ● The lease duration is less than, or equal to, the Rebind time.